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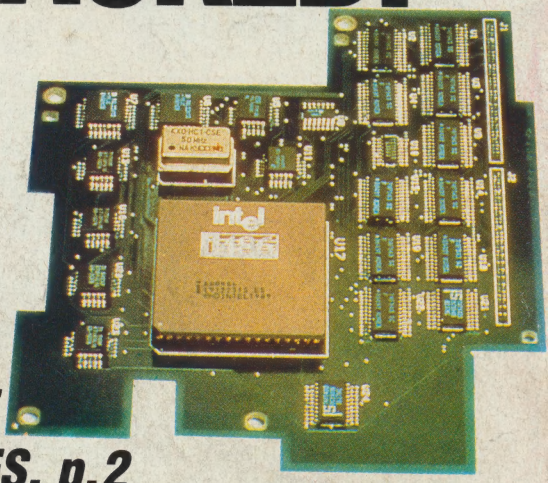
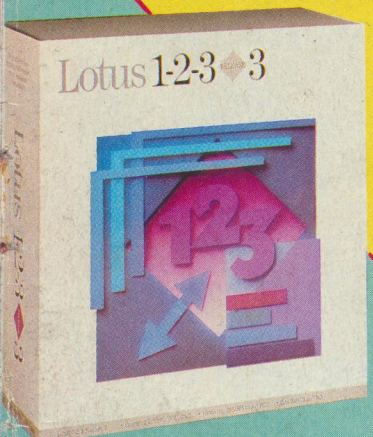
## HOW THIS CARD COULD REVOLUTIONISE PERSONAL COMPUTING

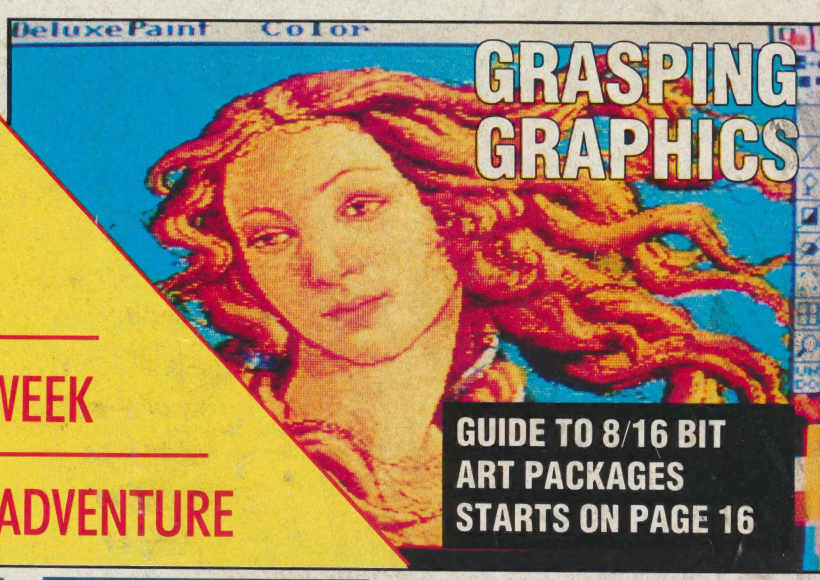


## ARC BUNDLE

NEW A3000 PACKAGE HAS TWELVE GAMES, p.2




LOTUS DELIVERS THE GOODS, p.6




GRASPING GRAPHICS

GUIDE TO 8/16 BIT ART PACKAGES STARTS ON PAGE 16

### ATARI ST

- All the news that is news from last week's Atari User Show – the final show ever before it is merged into the Computer Shopper Show.
- Catch Soundcheck on p.30 for Midi news at the speed of sound.
- How to peek and poke the screen from Hisoft Basic.

### AMIGA

- We review (p.30) a new hints 'n' tips book for the machine. Don't miss it.
- U.S. news in our great new column, p.4.

### SPECTRUM

- We explain how to design a joystick interface, p.44
- Spectrum +2A still causing problems with its +3 circuit board, p.44.
- We list XPRINT from Paul Dias, a brilliant machine code program that which allows you to use 64 column fonts in Basic programs.

### PC Compatibles

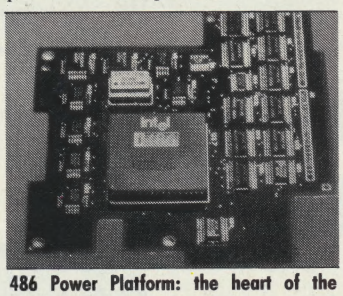
- A host of new machines (below) from Dell Computer Corp mark further expansion into the 32-bit arena.
- Lotus 1-2-3 3.0 is at last available, p.6.

A GREAT NEW U.S. NEWS COLUMN STARTS THIS WEEK! SEE p.5

# Massive PS/2 power hike

A MEGA-POWERFUL new circuit board for IBM PS/2s will put virtual mainframe power on a desk-top – more than doubling the power available from today's most powerful 32-bit PC clones.

Less than two months after Intel introduced the 80486 32-bit microprocessor, IBM – which once owned 10 percent of Intel – has produced a Micro-channel add-in board for the PS/2 Model 70, the company's most powerful desk-top micro.



486 Power Platform: the heart of the matter.

IBM says the upgrade will provide the PS/2 with more than twice the power of a 33MHz 80386-based PC, like that recently launched by Acer, in which instructions are pumped in at a blistering 33 million times a second.

The 80486 is a 32-bit processor like the 80386 but it differs in that it has memory on chip for storing the most often used data and instructions – a so-called cache memory. Reducing the number of external data accesses hikes the system throughput dramatically. A burst bus enables fast communication with other chips in the microprocessor system.

IBM PS/2: amazing speed hike.

The new IBM board is called Power Platform and will be available in the last quarter of this year. Do not expect much change out of £3,000. IBM can be reached on 0705 321212.

# Amiga ad flies into trouble

**FOLLOWING our exposure last year of the row surrounding CBM's Christmas TV advertising for the Amiga, the IBA has stepped in to ban it.**

**The advertisements were due to be reshown during Channel 4 Daily, the breakfast-time news program, but following viewers complaints, they will be withdrawn. Stewart Patterson of the IBA explained: "The advertisements featured computer graphics which were not produceable by the machine."**

**Patterson went on to say that the original film was passed by the IBA last year because: "We are experts in advertisement regulation rather than the workings of a computer." Since the screenings of the ads in the run-up to Christmas, several viewers have pointed out that the sophisticated modelling of the graphics sequence is clearly beyond the capabilities of the Amiga A500.**

**However, Patterson did not think Commodore's ad agency, Evans Hunt Scott, which produced the advertisement, had set out to deliberately mislead potential purchasers: "We're not saying the agency were trying to pull the wool over our eyes – it was a mistake, he says."**

**A spokesman for Evans Hunt Scott was more optimistic about the commercial's future: "The advertisement has not been finally withdrawn but there has been a problem. We are in discussions with the IBA."**

# Archie Twelve pack for £809

CAMBRIDGE International Computing is to sell an unofficial games software bundle, the Hyperpack, on the Acorn A3000, the latest version of Britain's first 32-bit home micro. The bundle content had not been finalised as we went to press but it is most likely to include the A3000, a modulator, a joystick and twelve games, yes, apparently there are that many games for it. The bundle will sell for £809.95, whereas the basic A3000 from Acorn costs £743.

The leisure software will probably include *Pacmania, Corruption, Fish, Terramax, Repton 3, Zarch, Conqueror, Star Trader* and *Orion*. Other possibilities are *Quasar* (from Impact), *Hole-Out* (the golf game) and *White Lightning*.

Cambridge International Software is a new division of heavy Acorn user Academic Studies, a computing and technology school.

CIS spokesman David Kelly told *Popular Computing Weekly* that the bundle should be ready for the BBC Acorn User Show July 21-23, at Alexandra Palace but he could not guarantee that availability date as problems with squabbling software houses still have to be ironed out.

Acorn will launch the A3000 officially at the show, but has offered no official backing to the CIS Hyperpack.

Instead, Acorn will be offering showgoers zero percent finance on the new machine. Those tempted to buy the A3000 on the spot will be able to arrange a finance package with Mercantile Credit within the walls of the show, and then pick up the micro from a giant Acorn pantechnicon parked outside. An optimistic Acorn is expecting 18,000 visitors to the show.

Acorn A3000: Cambridge Computer's bundle will probably include a joystick and 10 games.

Kelly for CIS claims that its bundle buyers will be able to join a new Arc user group, which will hold "regular meetings and publish a magazine, *Archimedes User*".

A possible second bundle from CIS could involve business packages like *1st Word Plus, System Delta Plus* and a DTP package from Minerva. CIS can be reached through parent company Academic Studies on 01-278 6622.

## This Week


**SIMULATIONS p.9**
Lee Paddon is up, up, and away with Bomber which simulates a whole host of different fighter planes.

**LETTERS p.11**
More retailing discussion; are games consoles a good thing? . . . EPROMs in the sun . . . User group news . . . GFA Basic upgrade.

**COMMS p.13**
Malcolm Arnold feels the pulse of Heartbeat, the BB for the deaf.

**8-BIT GRAPHICS p.16**
Although limited by screen resolution and availability of colours, many 8-bit users are incorporating graphics into DTP output. Tony Hetherington looks at some of the available packages.

**16-BIT GRAPHICS p.16**
Now we're really talking . . . this guide to the best graphics packages for 16-bitters will definitely put you in the picture.

**COMPUTER GAMESWEEK p.21**
**HOTLINES p.21**
**ASTAROTH p.23**
**NAVY MOVES p.24**
**PHOBIA p.26**
**SKWEEK p.27**
**ADVENTURE BRIDGE p.28**

**BOOK REVIEW p.30**
Kenn Garroch reviews 'More Tricks and Tips for the Amiga'.

**SOUNDCHECK p.30**
Tony Sacks reviews a desk accessory which acts as a library for all your Midi files.

**BYTES & PIECES p.42**
XPRINT for the Spectrum; create 64-column fonts in your Basic programs.

**PUZZLE p.43**
A digital watch poser.

# Atari show goes out with a bang

THE LAST Atari Computer Show was probably one of the most interesting. London's Alexandra Palace was the venue for the exhibition of over 50 new products, including the much acclaimed *Spectre 128* Macintosh emulator and Calamus DTP software from Signa Publishing.

Some of us were familiar with many packages as some companies were simply giving an already-released product a first public showing.

As usual, the box shifters were out in force. Blank discs were unbelievably cheap with some companies selling 50 DSDD 3.5 inch discs for just £27.99 including a one-for-one guarantee.

Bath Computer Shack – 0225 310300 – was showing an interesting little add-on for the ST, the *Tweety Board*. For £49.95, the Tweety converts the rather dull and lifeless sound of the ST into glorious stereo.

The Llamasoft – 07356 4478 – stand was substantially smaller than usual and the main display was of *Grid Runner* with the fabulous *Trip-a-Tron* being displayed on a large monitor to the sounds of Pink Floyd.

Atari's presence in the show was non-existent. Yes, the company after whom the show was named was absent and the only person I recognised to be remotely related to Atari was Les Player, who left the company a few months ago.

Signa Publishing – 0252 341600 – surprised many with two large stands either side of the main one at the front of the hall. Here they were showing their new products including *Calamus* and the new *Hawk* handheld scanner.

Frontier Software – 0423 567140 – showed their usual products as well as the new memory board which will boost an ST to 2.5 Mb. page 6 Publishing were back with force after a brief absence from the market with the new combined magazine, *New Atari User* and were also selling back issues as well as their excellent range of public domain software.

Shifting ST games by the shovelful.

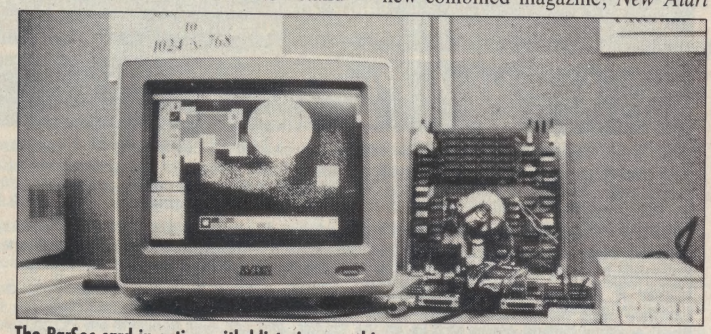
Elmtech Research – 021-472 5719 – displayed its new *ParSec Graphics Interface* boards. These are a new development which doubles the resolution of the ST and bumps up the colours to 4096 or 6 million, depending on the model of the board. While graphics boards were being displayed at one end of the show, Audio Visual Research – 0582 457348 – were showing off two sampling packages. *Replay 4* and the new *Master Sound*, marketed by Software Horizons.

Take Control – 021 706 6085 – demonstrated *Music Publisher*, a page layout program for musicians. The software costs £290 + VAT and is the only music program which will actually print music on paper up to A3 size.

Many Atari 8-bit owners would have been grossly disappointed with the show as I only saw two 8-bit machines in the whole show.

The Atari User Group Stand was probably the biggest ever but ironically this was because only two groups were fighting for the space, whereas if there had been four or five, the stand would have been minute.

The Atari Show was probably the most interesting of all time, it is a real shame that it was also the last.



The ParSec card in action with blistering graphics.

# Blow your own EPROM

EPROM BLOWING, once the preserve of BBC owners has reached the heady heights of the ST market, which presently lacks a developed range of ROM software.

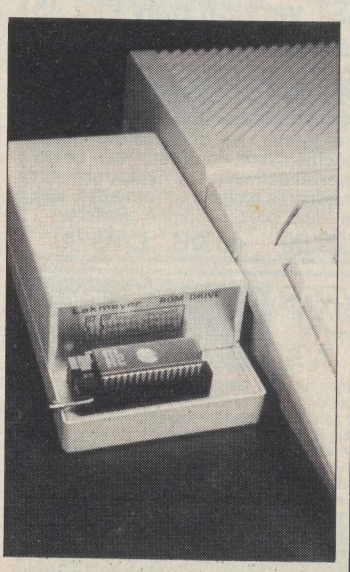
But J. E. Sinclare – telephone 01-316 1779 – are probably not too concerned as they have released a new EPROM programmer to cater for the latest 32 pin, one megabit chips.

The device is software-controlled and plugs straight into the cartridge port, and can cope with the more common 28 pin chips as well. Other features of the device include high speed warning if the chip is not blank before blowing, and protection against incorrect insertion.

The software claims to be easy to use, and allows the transfer of files between EPROM, disc and a RAM buffer, hex keyboard entry, relocation and block programming. A special feature allows the splitting of 16-bit data in two separate EPROMS, and 32-bit in four EPROMS.

Also included with the package is the very useful *Silicon Disk* software, which enables your own programs to be written, once only, to an EPROM, for instantaneous access at power up.

The producers, Lakmeyer, and their distributors, J. E. Sinclare are retailing the plug-in unit plus all the software at £165 + V.A.T. while also catering for non-ST owners by offering a 520STFM plus the unit and software at £425.



No place like ROM.

## IN BRIEF

### The Nazis' soft option

**FOLLOWING a worrying advance made by far right wing parties in the German euro-elections, where a former Waffen SS commander took 12 percent of the vote, there are further reports of Nazi software from the German district of Mittelfranken. There, reports Newsbytes, district governors have asked the populance to be watchful and to "weigh the consequences" of using and distributing such software, which is officially banned. What is particularly worrying moderates is that the Nazis' chief means of distribution is through school playgrounds.**

### Knock off!

**MICRON Computer Centre of Sudbury, Suffolk has knocked £30 from the price of its 40MB hard drive for the Amiga 500. The A500/40 has an integral power supply, fan and 2MB unpopulated RAM board. The drive is an 11ms Quantum Pro-Drive; a disable switch allows the Amiga to ignore the drive without a physical disconnection. The price is now £650 inclusive: for details call 0767 881998.**

### Alternative show dates

**WHAT have Einstein, the Enterprise and Ace in common? If you do not know you probably will not be going to The Alternative Micro Show, which this year will be held on Saturday, November 11 at Bingley Hall, Stafford. If you have a wild craving to exhibit your ageing dongles, call Taurus Computer Systems – the organiser – on 0473 602460.**

### Chips get battered

**A $3.96 EUROPEAN research project into semi-conductor technology is being launched in an effort to gain a greater slice of the chip market presently dominated by the Americans and the Japanese. Europe's share of the $50 billion chip market has slipped from 16.1 per cent to just 9.7 per cent in the last ten years.**

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| 1040 STFM including TV modulator | £399.00 |
| 1040 STFM model as above, with 'Microsoft Write' & 'VIP Professional' | £419.00 |
| 1040 STFM model as above, including 21 games, business software and joystick as supplied with above '520 STFM Super Pack' | £419.00 |
| 1040 STFM as above with super pack extras, with 'MS-Write' & 'VIP Pro' | £459.00 |

Buy any 1040 STFM model with a monochrome monitor for only £110.00 extra

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|---|---|
| Mega ST1 with mono monitor, 'Microsoft Wite' and 'VIP Professional' | £599.00 |
| Mega ST2 with mono monitor, 'Microsoft Write' and 'VIP Professional' | £849.00 |
| Mega ST4 with mono monitor, 'Microsoft Write' and 'VIP Professional' | £1099.00 |
| 'Super Pack' Software, as supplied with above 520STFM offer | £60.00 |
| SLM804 laser printer, great value at | £1099.00 |
| SM124/5 mono monitor | £119.00 |
| Mega-File 30Mb hard disk | £539.00 |
| Mega ST2 package - includes Mega ST2, mono monitor, external 1Mb 3.5" drive, SLM804 laser, 'MS-Write', 'VIP Pro.', 'Fleet St Publisher' and 90 days on site maintenance | £1795.00 |
| Atari DTP system - (Mega ST4/MM/SLM804/30MB HD/S'WARE) | £2795.00 |
| Vortex HDplus 40Mb hard disk | £519.00 |
| 5.25" External drive 40/80 track 360/720K formatted capacity | £159.95 |
| Pye 1185 15" FST Teletext TV/Monitor inc.full remote control and cable | £269.00 |
| Philips CM8833 colour monitor c/w ST or Amiga cable | £229.00 |
| Philips CM8852 as above, higher resolution | £299.00 |

## commodore hardware

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| NEC V30 (8086 replacement) | £24.95 | PC2000 series compatible 5.25" (360K) external drive | £100.00 |
| Cipher CT1525 tape streamer | £319.00 | Joystick & Controller Card self centering analog type | £34.95 |
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# $tateside

*Steve Gold reports on the hot news in the U.S. computer world, courtesy of the on-line systems spanning the world.*

★ It is good to see that at least some of the U.S. software houses are announcing details of their future Amiga software releases. One company, Mindscape, has revealed plans to launch a range of games in the next year or so, starting with *Gauntlet II* next month, *After-Burner* in September, and *Star Trek V* in January, 1990. Star Trek V? The film is not even out yet.

★ Staying with the Amiga, I note that one company, Electronic Ecstasy – 0101 805 682 8330 – is selling the Readysoft A-Max, the Mac emulator for the Amiga. A-Max is reported to be as good as the Spectre 128 cartridge for the Atari ST, which was shown at the Atari Show at Alexandra Palace.

**Amiga: games on the way from Mindscape include Star Trek V and look out for the Mac emulator, A-Max.**

★ The good news for Amigans with an eye to running Mac programs on their machines is that A-Max costs $149.95 and, unlike the Spectre 128, requires no Mac ROMs or extra hardware to run Apple Mac programs. Electronic Ecstasy, as you might expect, takes all the usual credit cards.

★ Lake Forest Logic – 0101 312 816 6666 – is now shipping its answer to Norton Utilities on the PC for the Amiga. Disc Mechanic is an $89.95 package which can speed your Amiga disc drives by as much as 400 percent.

★ Finally on the Amiga front this week, Newtek – 0101 913 354 1146 – of Topeka, Kansas, has launched *Digipaint 3*, a much-upgraded edition of its graphics and paint package. The software usually costs $99.95 but Newtek is offering it for $49.95, provided you have a competing package, such as *Deluxe Paint, Deluxe Photolab, Express Paint* or *Photon Paint.*

★ Atari ST fans, meanwhile, may have read elsewhere that a new version of TOS, the ST operating system, is about to be shipped. That is not the case. According to Chris Roberts, the Atari User Group co-ordinator in the U.S., the package will not be available on an upgrade basis until at least the autumn.

His comments, revealed in Ron Kovacs' Z-May electronic newsletter, contrast directly with ST Report, another electronic newsletter, which said earlier this month that TOS 1.4 was ready to ship to U.S. ST dealers on June 19. Atari officials are reported to be worried by the news, which conflicts with the real situation.

The reason for the seemingly stop-go situation on TOS 1.4 is that the new release of the ST operating system is a true ROM and must therefore be designed and produced by a full chip production process, rather than as an EPROM chip, as is the norm for the ST operating system of late.

★ Atari has just begun production of TOS 1.4 and has a number of ROM chips available for shipment. It is, however, diverting the chips to models of the ST shipping with its long-awaited DTP system, which includes the SL-004 laser printer and Moniterm 19in. monochrome monitor. Apparently, TOS 1.4 is the only revision of the ST operating system which supports such a large screen.

Atari is not overlooking existing owners of the 520 and 1040ST. My sources suggest that the Tramiel family will announce a blitter upgrade facility for existing ST console users later this year. Watch for what Atari U.K. does in this respect.

★ If you are thinking of buying a Mega ST, wait a few weeks, as my sources also suggest that Mega-6, equipped with 6MB of RAM, has been prototyped by Atari in the U.S. The machine may not be released in the U.S. because of tight FCC rules, which means that Atari U.K. and Europe may have an exclusive on the machine, as happened with the Atari 1MB Mega ST.

★ You may have heard already that Apple is concerned about the unauthorised public release of the source code to *Quickdraw*. The Nuprometheus League, the anonymous group behind the mailing of the source code, had threatened to release the complete Mac operating system source, including the code relating to the as-yet-unreleased new System 7.0 Mac operating system.

Apple has now called in U.S. Federal agents who reckon they are hot on the trail of the San Francisco-based group. They may be too late. The U.S. news wires suggest that the source code to all the Mac operating system has now been passed to Mac clone makers in Taiwan.

# Microlink quits Gold

**By Paul Marks**

ON-LINE computer news service Microlink has delivered a punishing blow to British Telecom by abandoning its use of the Telecom Gold e-mail service. A cheaper and far more varied Microlink is promised as a result.

Claiming to be tired of the restrictions that Telecom Gold supposedly places on service providers, Microlink will run on Istel's *Infotrac* network from October 1. Users will be given new dial-up telephone numbers in the near future, though user IDs and passwords will remain unaffected.

One major advantage of using Infotrac over Telecom Gold is that users will be able to log onto local Infotrac nodes for the price of a local call – like Micronet – rather than having to dial into BT's packet switch system, an expensive business if you live outside London.

In an exclusive interview with *Popular Computing Weekly*, Microlink's joint managing director Derek Meakin said that after repeatedly attempting to get Telecom Gold to provide gateways to other on-line databases, he had "no response".

"We have become increasingly frustrated by constraints imposed on us, which have prevented us from moving into exciting new areas of activity." Meakin told *Popular Computing*.

With Istel, Meakin claims access to popular U.S. services like *The Source* and *Compuserve* will be just a matter of time.

In addition, Infotrac will give Microlink users access to some 1200 global databases, use of which will simply incur time charges for the area accessed, without the user having to register separately for each one.

Says Meakin: "For the first time we shall be offering up to the minute news, sport and weather services, and for the business community, who now form the largest single user group on Microlink, we shall have the regularly updated city and financial information."

Telecom gold is run by Dialcom, a BT subsidiary. Dialcom also runs Prestel, the on-line service which carries Micronet, so it was perhaps inevitable that one day BT and Microlink would part company, for the simple reason that its own Micronet service (a joint venture with EMAP) competes with Microlink.

Micronet boss David Rosenbaum is unworried by Microlink's seemingly ambitious plans, saying: "This is certainly an interesting development but I don't expect it to affect us, as Microlink's user base is largely business based."

For its part, Microlink is predicting a doubling of membership over the next year. Right now membership is put at 8,000, 10,000 or 14,000, depending on who's talking.

# Belfast software boost

From Mike Johnson
In Belfast

A STATE-OF-THE-ART business planning package has produced a fillip for the Northern Ireland software industry. Belfast-based publisher Intersoft Plus has won an order worth £2.5 million from a U.S. company. Talking to reporters and TV cameramen from its Regency offices directly opposite Belfast City Hall, Colum Rafferty, Intersoft Plus chairman, gave details of the deal.

The order is for the Intersoft *Executive Modelling System*, a powerful, artificially intelligent spreadsheet utilising straightforward English commands. It allows results to be predicted from the input of business variables using analysis functions with what-if? and goal-seek commands.

The order is from a major financial software company which will be marketing the product under its own name, Realworld.

Intersoft Plus was formed two years ago with assistance from LEDU, the Small Business Agency for Northern Ireland. Planning more business package releases this year and a doubling of staff, the company is helping the drive to retain graduate programmers who often leave the province for better opportunities.

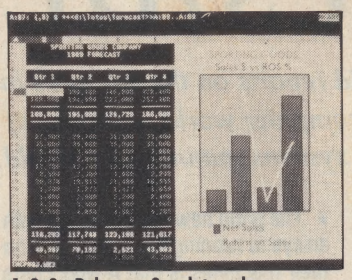
**Colum Raffery, Chairman of Intersoft, has announced the Irish-American package.**

# Now Lotus crosses finishing line

**If "WHO SHOT J.R.?" was one of the great questions of the early 1980's, then "Where the hell is Lotus 1–2–3 *Release 3*?" must be the computer industry's biggest puzzler in this latter half of the decade.**

**But now, the waiting is finally over, and the Lotus Development soap opera has a new star, centrestage. Release 3 of the world's most popular spreadsheet was not only launched last week but also delivered.**

**Offering most of the facilities already on the market in the form of *Supercalc 5* from Computer Associates, 1–2–3 Release 3 has 3-D spreadsheeting facilities and graphs that can be changed in real time on the same screen as the spreadsheet: as the numbers are changed by the user, so the representative graph changes to take account of the new numeric values.**



**1–2–3 Release 3: data changes are immediately reflected in the graph.**

**Release 3 will only work on 80286 and 80386 based PC's. It maintains the same user interface that the original Lotus 1–2–3 had in the beginning; users simply have to learn the new facilities.**

**The new 1–2–3 is priced at £395; Lotus is on 0753 840281.**

# 286-priced 386 from Dell

**MICHAEL DELL, the multi millionaire whizz kid who introduced his company to the U.K. in 1987 having successfully challenged IBM and Compaq in the U.S., was in London this week to unveil his latest PC.**

**Dell Computer Corporation has launched an expandable 16 MHz 386SX-based PC which costs less than many 286-based systems. Versions will be available to DOS and OS/2 users and it will also act as an entry-level model in the Dell range of UNIX systems.**

**The machine has a fast 80 nanosecond memory, a 16-bit VGA adaptor and the hard disc controller is integrated on the system board. By selling direct to the public Dell can offer a fully configured System 316 from £1,949. This price includes a 40MB hard disc and monochrome VGA graphics.**

**Dell's after-sales service comprises unlimited use of a technical 'hotline' and a one year, next day maintenance contract.**

**To extend its useful life System 316 has seven expansion slots and five peripheral bays giving a total hard disc capacity of 640MB.**

**For further details contact Dell on 0344 860456.**

**Dell's new launch is again set to unnerve market leaders.**

# Commodore packs punch

COMMODORE is courting the small businessman with the announcement of a bundling package for its PC10 Series 3 range of micros.

Available from July 1, each will have the Ashton-Tate *Framework 2*, a mouse and a 9-pin dot matrix printer. Prices start at £949 for a twin floppy/mono monitor configuration and £1,149 for a 40MB hard disc/mono monitor configuration. The Framework 2 integrated software package comprises a word processor, database and spreadsheet with 90-day hot-line support.

The move is presumably to rival Amstrad, which last month launched a special deal for its 2000 range of PC's. For £999 the PC2086 is available with a Lotus *Symphony* integrated package and a 24-pin dot matrix printer.

For further details of the Commodore bundle call 0628 770088.

# Boot out your desktop

**ISM has launched MultiDesk for the Atari ST to help users beat the annoyance of continual re-booting. Costing £29.95 including VAT, MultiDesk allows the user to run desk accessories such as a thesaurus or an address list like any other program without having to re-boot the discs separately.**

**Contact 0983 864674.**

## POPULAR COMMENT

**In an extraordinary move, Commodore has decided to run its own Christmas show the week before the November Computer Shopper Show, the event that is supposed to roll the Atari, Commodore, BBC and Amstrad shows into one big pre-Christmas extravaganza of computerabilia.**

**The CBM event is apparently geared towards keeping a high standalone profile for the show in preparation for a mega event next summer. It will be held at the Novotel, Hammersmith, on November 17-19. Shopper runs from November 24-26 at Alexandra Palace. Commodore is hoping to tempt at least 15,000 people to the November event, and will have the added attraction of showing off its PC line in addition to Amiga and C64 products. But the big question is this: who will go to both shows? For the Shopper show to succeed on the CBM front it will need to be visited by Amiga and C64 fans, many of whom will have been to the previous week's show. CBM executives expect buyers to be willing to make two trips into London on adjacent weekends. Enthusiasts we have questioned on the matter have said that they would certainly do nothing of the kind. As usual, your input on this is welcome.**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Popular Computing Weekly, Greencoat House, Francis Street, London SW1P 1DG. Telephone 01-834 1717. FAX 01-630 6165.

© PCW 1989.
ISSN 0265-0509.
Typeset by Hamilton Press. Printed by Souther Print. Distributed by SM Distribution, Stre tham, London SW16. Telephone 677 811 Subscription rates: UK £35 per year. Overse £49.95 per year.

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# Bombs away

Lee Paddon makes some new sightings on the flight paths.

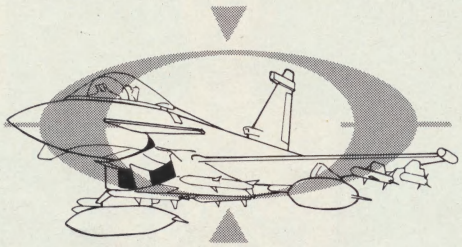
Throw together a refugee from Cascade flight simulation days and a bunch of 3D specialists and what do you have? An outfit called Vektor Graphics producing a flight simulator called; provisionally, *Bomber.*

John Lewis was with publisher Cascade when it produced the very popular *Air Combat Emulator* series. The pedigree on the programming side of Vektor is from Andy Craven and chums who were responsible for *Star Wars* from Domark.

Bomber seeks to simulate a variety of multi-role strike aircraft, including the Tornado IDS, F-15 Strike Eagle, F-4 Phantom, F-111 Aardvark, Saab Viggen and the MiG 27 Flogger. It is good to see the Tornado finally on the simulator scene. As the most important aircraft in Western European inventories at the moment, it is long overdue for the treatment.

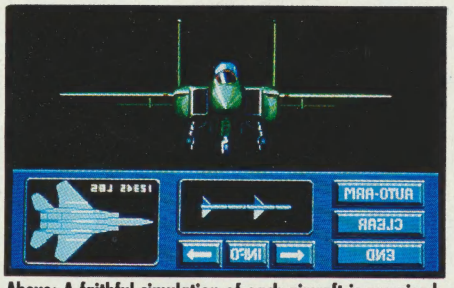
As Vektor is the first to point out, many other flight simulators, such as *Chuck Yeager,* claim to offer a variety of aircraft but, in fact, contain only superficial differences. A prime example of this was the EA *Interceptor,* where the differences between the F/A-18 and F-16 were minimal. Since the similarity of the simulator to the real thing was superficial anyway, it scarcely mattered.

In *Bomber,* it is claimed, the differences between all these vastly different aircraft will be reproduced faithfully. There will even be a list of no fewer than 14 aircraft against which to fly.



SIMULATIONS

The *Bomber's* Head Up Display... Up, up and away.



Above: A faithful simulation of each aircraft is promised.
Below: Coming at you. Choose your weapons.

Apparently the idea is to stage the Curtis E Le May Trophy on your micro. The competition is organised by the USAF Strategic Air Command which invites the world's air forces – the friendly ones – to demonstrate the accuracy of their strike bombing. Strike bombing is Pentagon language for what my defence editor at *Flight* used to call "chucking the bucket of sunshine at Smolensk" – in other words nuking.

If I remember correctly, a few years ago the RAF won the trophy with Vulcans. Judging by the inability of that type to hit Stanley airstrip during the Falklands conflict it does not say much for the remainder. I suppose it might make the inhabitants of Smolensk sleep a little easier, safe in the knowledge that the farmers in the neighbouring collectives would probably cop it instead of them.

This game and EA/Argonaut *F-117A Aggressor* emphasise the way fast 3D can allow many complex objects to be plotted on the screen at the same time without sacrificing speed. I hope with both these games that the programmers realise that there is more to a first-class flight simulation than pretty graphics.

Another simulator which appears to be pushing the speed of its graphics is *Jetfighter: The Adventure* from, appropriately enough, the Velocity Development Corporation. I know nothing about the game other than it claims to be four times faster than *Falcon AT* in terms of frames of animation. The publicity material claims that John C. Dvorak says it is "the ultimate flight simulator" and it appears to be our old friend the F-14; it is on the IBM PC only and costs £40.

Something about which I know is *Gunship* from Microprose on the Amiga. It costs £24.95 and is the game we all know and love. There is little in the way of enhancements for the Amiga owner, despite the long wait.

There is certainly nothing wrong with the Amiga conversion and Gunship is a fine game. In many ways it was the first of the new wave of flight simulators which addressed the problem "I am up here, give me something reasonably challenging to do".

Hot on its heels will be the Amiga conversion of *F-16 Combat Pilot.* While Dave Marshall takes a well-earned furlough at DI, Rod Swift and company are still hard at work, with the conversion due in a month or so, followed reasonably closely by the C64 version. I have now made it as far as the third squadron – the Ghostriders – in Combat Pilot, so by next time I might put my thoughts together and provide a few playing tips. Any tips from readers, of course, are always welcome. □

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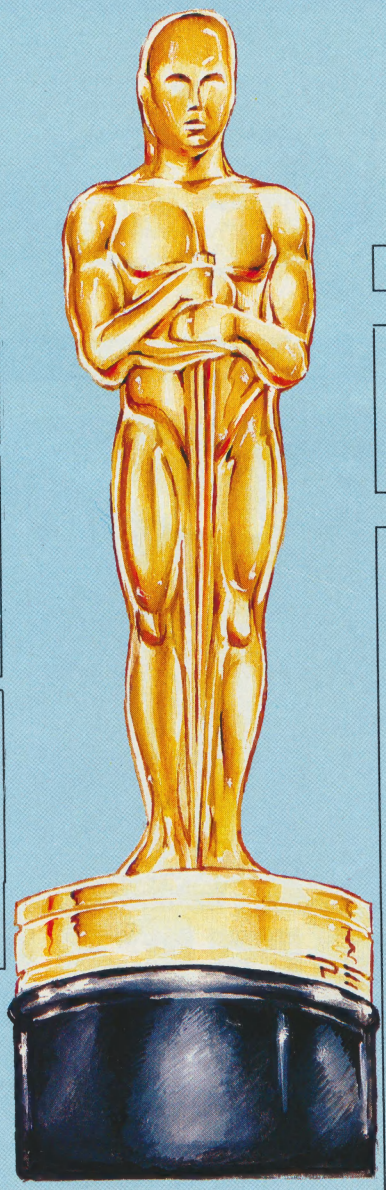

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POPULAR POSTBAG

## Weather eye

The poor old retailer in recent weeks has been threatened by many changes in attitude in the computer industry. First, a reduction of the distribution discount rate and now an Atari bundle that is so good people are not buying any more computer games. Let us consider several points for more far-reaching effects.

This is typically the slow selling part in the year and low sales are part of the cycle. The continuing increase in interest rates probably effects the southern-based shops more than the northern counterparts. I would like to hear from owners in both areas to compare differences.

Typical arguments at Christmas are that too many titles are released at once and effective yearly sales are ruined. For the rest of the year any reasonable releases are few and far between. The recent hot weather in the U.K. is bound to deter people from using computers while the sun is shining long into the evenings.

The increased competition of some reputable direct-mail firms is pushing prices down. Increasing competition from other high street sources like W. H. Smith and Boots must make it more difficult, especially since the likes of them have dropped hardware sales in favour of the more profitable side, software. Who are the small retailers kidding? It is just sour grapes because things are not too hot. Wait until Christmas and computer sales are boosted. With the added incentive of 20 games thrown in, you will hear no complaint then.

Everyone has different tastes and not all of us are alien blasters. Word processors, strategy games and some other utilities are bound to sell. I believe a selection of bundles should be available from which to choose. This entails many problems for many people concerned and therefore they see it as unpracticable. Perhaps the bundle should have more variety, although the emphasis should still be on entertainment.

Do the retailers really believe there will be no future big name attractions? Most of those titles are six months old. It is only giving the best taste of what is to come. That is where you will make your future fast bucks, especially at Christmas. All the bundle does is delay the initial buying spree until the punter is fed up with all those games.

I believe the companies which release such titles do so because sales are falling and that rather than boring the socks off us with re-re-released and combined budget releases they give it away with the machines. They only get £1 or so from Atari and are surely cutting their own throats, if what the retailers say is true. We do not hear them complain; they believe in the future machine sales. Good for Atari and the software houses which have joined in full co-operation; they see the future in such a ploy. Retailers should get wise to what is really happening.

On another matter, a brief comment on the rallying popularity and belief in consoles. Are we really expected to believe that people will buy them? Cartridge games are bound to be at the £20 plus mark and a short time ago people were complaining about prices on the ST and Amiga being as high as they are. Will the companies involved in selling consoles be able to throw in 20 cartridges? I think not.

The conventional computer manufacturers' best challenge against console introduction is the policy already present. Profit margins for retailers on cartridges will be strict and some restrictions on licenses, sound like a giant monopolising move to stop prices being reduced. I see consoles failing from the start in the U.K., and buyers should wait and see. I hope retailers persuade customers to buy more conventional machines.

*Simon Rush,*
*Fast ST Users Group,*
*Rayleigh,*
*Essex.*

## STAR LETTER

### Sunburnt

My thanks to Kenn Garroch for his answers to my questions.

As regards erasing an EPROM in the sun, it appears that it is not, after all, possible. Despite open skies and our local ozone depletion, several hours of irradiation would not do it.

I tried wiping the EPROM with a 300-watt ultra-violet light – a real zinger, 30 minutes at 5cm. I enclose the molten remnants of the EPROM cartridge for your interest.

It was something of a surprise to find that the EPROM chip was still working. Further, it had retained all its files. I gave it another hour at 30cm but the files remained intact. Thus I can say with a measure of confidence that the only way to wipe a Z-88 EPROM is with the Cambridge Computers EPROM Eraser.

Is it possible to give the Z88 password protection from Basic? I imagine it would be possible by first disabling the ESC, INDEX, and SQUARE keys. Disabling ESC would be straightforward – ON ERROR IF ERR=17 THEN but how would one go about disabling the other two?

*Rev. Thomas Scarborough,*
*Port Elizabeth,*
*South Africa.*

## User group launch

For many years it has been commonplace for there to be user groups for computers. My effort, ZX Broadsheet, was one of the early groups for the ZX 80 and ZX 81 and during its four years of existence I made many friends all over the world.

As the founder of the first U.K. printer ribbon re-inking service, which I started three years ago, I have become very conscious of many of the problems and pitfalls involved with using computer printers. I think there is now a real need for a user group to be concerned not so much with computers but with that important peripheral the printer. I hope to start such a group and that by publishing this letter you will help make this ambition a reality.

I have provisionally selected the name 'Write-on-Line' as a title, but it can still be changed if it does not prove popular. The aims would be to promote the interests of members and to share information about printer-related products and expertise on how to make the best use of printers.

Activities I envisage would include some form of regular communication between members, probably by means of a newsletter, meetings, and perhaps such things as chain-letters – not the financial kind – an advice hotline and skills exchange, a printer swap-shop, and doubtless other facilities and ventures as required by the membership.

Interested printer users should write to: Write-On-Line, c/o Nick Godwin, 4 Hurkur Crescent, Eyemouth, Berwickshire TD14 5AP, enclosing an A4 SAE, and tell me the printer they have.

*Nick Godwin,*
*Berwickshire.*

## Sheer artistry

Judging from the discussion about the relative merits of the new Acorn 3000 and the Amiga 500, together with your excellent run-down of the hugh bundle of tricks you get with the cheaper Amiga, I am glad I own one. It continues to provide a great deal of interest and scope for artistic expression.

It might interest other readers who bought the first issue of *GFA Basic v.3.0* to know that an upgrade is now available from one of the best agents for GFA products, *GFA User Magazine*, 186 Holland Street, Crewe, Cheshire.

It is necessary to send only the original disc with your enquiry or at least some proof that you are a registered user of GFA Basic. It is also good to have a specialist magazine like this being produced by its editor, Barrie Capel, and sub editor John Peters. The range of GFA products deserves it. The current rest of year subscription is only £8 and for anyone who needs full support for this very full basic and other products it can be highly recommended.

One pleasant surprise in the latest GFA V3.04E is the Paint program. I would love to know what some of the drop-down menu words really mean in English. Under Spezial we get "Zeichenfarbe, Hintergrundfarbe, and Muster". Under Polyline, "Einlesen, Abspeichern, Loschen".

All the same I agree with Kenn Garroch – I would like an Acorn 3000, too.

*John Gray,*
*Eastbourne.*

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# The beat goes on

## Malcolm Arnold defends Heartbeat, the bulletin board for the deaf

As reported in *Popular's* News pages last week, *Heartbeat* – Reading's bulletin board for the deaf – has been attacked in the July issue of *BBC Acorn User.*

The board has been set up with the intention of supporting disabled members of the Online Community. It also works to break down communication barriers between the deaf (at whom it was most specifically aimed) and hearing users – an area to which Comms is particularly suited.

Yet this community service-minded BB has been slammed as a pornographic board by Christina Neal, in the July '89 issue of *BBC Acorn User.*

The article quotes sysops from both Microview (highlighted in the March 16, 1989 issue of *Popular Computing Weekly*) and CCL4 – the other two BBs cited – but no opportunity for defence was given to Heartbeat's sysops. It is my intention to attempt to redress the balance . . .

At around one this morning, I had a long on-line chat whith the board's sysop, Susan Wearing. 'Voice' would have been quicker, true, but she is deaf. Chat Mode is as close as she will ever get to telephone contact. And from this position of insight, she feels well qualified to design and run a service which tries to help deaf users stay in touch. Heartbeat is called an "erotic bulletin board," in the AU article, but, as co-sysop Ian Baldock told me, "The article does not give a true picture of what Heartbeat is for. The Adult area is a very small part." Other areas include news for the disabled, and an interface with agencies such as the Police and Social Services. It also provides an equal-terms medium for deaf and hearing users.

At the time of my log-on, the Adult CUG had been suspended pending legal advice from Heartbeat's solicitor. However, in my capacity as Comms Columnist, I was granted temporary access. The area – as far as I could see – had no textfile storage. This was not some on-line erotic treasure trove – some database of titillating downloadables. Instead it was merely a message area where *registered*, adult users could openly discuss sexual matters. As Wearing underlined throughout our conversation, "It is no more explicit than adult material openly on sale in newsagents. It has been said that they are always kept on the top shelf, but there are some pretty tall sixteen year olds!" According to Wearing and Baldock, Heartbeat is as careful as possible over checking the details submitted by applicants for access to the Adult CUG. Access is only granted after written application confirming the applicant to be over eighteen. Yet the AU article states: "erotic bulletin boards like . . . Heartbeat make little or no effort to check out ages of potential new members."

I asked Christina Neal why she had presented Heartbeat in this light. She told me she felt her article was justified in revealing to readers, "that erotic bulletin boards can be accessed by young children." She emphasised that she had purposely left out the fact that Susan Wearing was deaf so that the article could not be misinterpreted. "It was not an attack on the deaf people's right to communicate." It was true that she had 'voice' contact with Heartbeat representatives between the article being written, and its appearance in the July issue of AU; but she could not have given right of reply at that point as one article was already past the layout stage. It was too late to alter it to include comment from Heartbeat.

How had she gained access to the CUG? "I played around with the system," she said. "Do you mean you hacked it?" I asked. "Yes," was her reply.

Until this point it had appeared to me that Ms. Neal has been allowed to see the CUG on Comms journalist, David Janda's password. This had been granted without written application because both Baldock and Wearing knew Janda from conversations on Prestel. Indeed the screen shot accompanying Ms. Neal's article gives the prompt, "What next David?" There is no record of access by a Christina Neal in the board's activity log, which shows all remote entries to the BB via the modem. Other attempts to hack the sysop's account had been recorded as having failed, suggesting an 'invisible' remote hack to be impossible.

I talked to Iqbal Sadiq: who is co-sysop of the Bradford BBS with Sarfaraz Hussain, the writer of Heartbeat's software, SAFBBS. In his opinion such an illicit entry was inconceivable. "In the four years of the Bradford BBS, I have never heard of anyone getting down to system level," he said. "Even if a hacker *did* get into Basic, it would be in the activity log."

The question of the purported hack is important on two scores. (1) How can the allegation be levelled that children have easy access to the CUG – and that Heartbeat does not attempt to verify age – if Ms. Neal's access negated the board's normal security, and no opportunity was given to the sysops to verify details? (2) If the hack did not actually take place, how can the same allegation be levelled when access has been granted to a *known adult.*

The article cites such luminaries as the Comms user's favourite MP, Emma Nicholson, and Superintendent Les Bennett of New Scotland Yard's Obscene Publications Unit. The latter was quoted to have said that he would, "discourage anyone from trying to get into these kind of bulletin boards from both a moral and legal point of view." Since then he has said that he was making a generalised statement, and did not even know of the existence of Heartbeat – or indeed the other two boards – let alone anything about their content!

Ms. Neal stands by her definition of Heartbeat as an "erotic bulletin board". Conversely I would define it as a BB with a *closed* adult area. Because – for example – Channel 4 may have explicit scenes in some of the films it runs, does that mean it can be defined as an erotic television channel?

The article also states that, "To join Heartbeat potential members must complte an on-line application form giving . . . sexual preferences." This is untrue. One registers for the BB in the normal way with details like address and telephone number.

Robin, a disabled user of the CUG, called me to defend Heartbeat. He suffers from severe Muscular Dystrophy, and told me how surprised and pleased he had been to discover the CUG. He explained that many disabled people have been conditioned to expect little or nothing in terms of emotional involvement and sexual relationships. The result is a deep sense of isolation. Who could they talk to about something so personal? Who would understand their special situation? The CUG meant a great deal to him, and he was sad to see it so misunderstood and maligned.

After taking legal advice, Wearing and Baldock have set up a fund to cover legal costs and intend to sue *Acorn User.* Their solicitor has already made representation to the Press Council, and there has been interest from advisers active in the field of Civil Liberties. In the meantime the BB will continue to provide its service as normally as possible – and even the Adult CUG has been reinstated.

It is always possible that I have got it all wrong. It is possible that Heartbeat is an irresponsible corrupter of children and exploiter of the disabled. But it appears AU got it wrong, and the board deserves to be seen in its wider context: as one of those BB gems where the medium is not the main message. The message is something much more important.

Log onto Heartbeat on 0734 352032 – Viewdata and V21/23 and reverse V23 scrolling – 24hrs.

Contact me on The Owl Service – 0532 605876 – V21/23 – 24hrs, or via Prestel MBX: 011112661.

**Malcolm Arnold**

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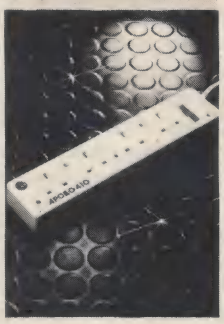

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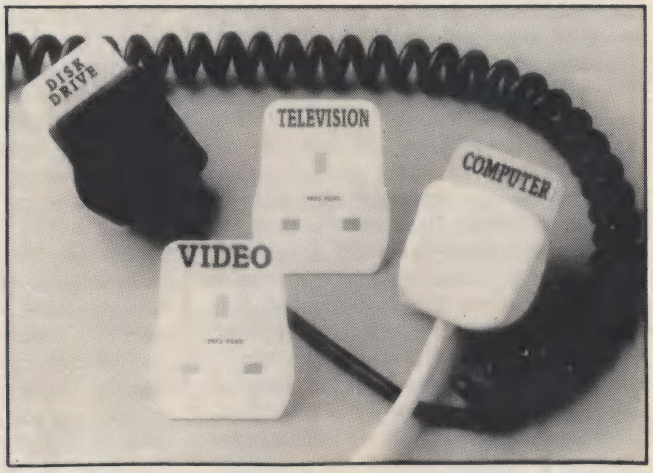


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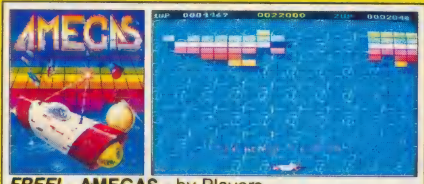
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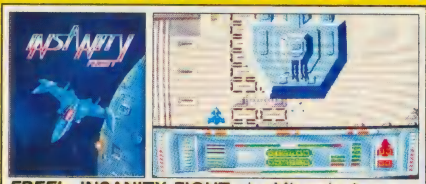
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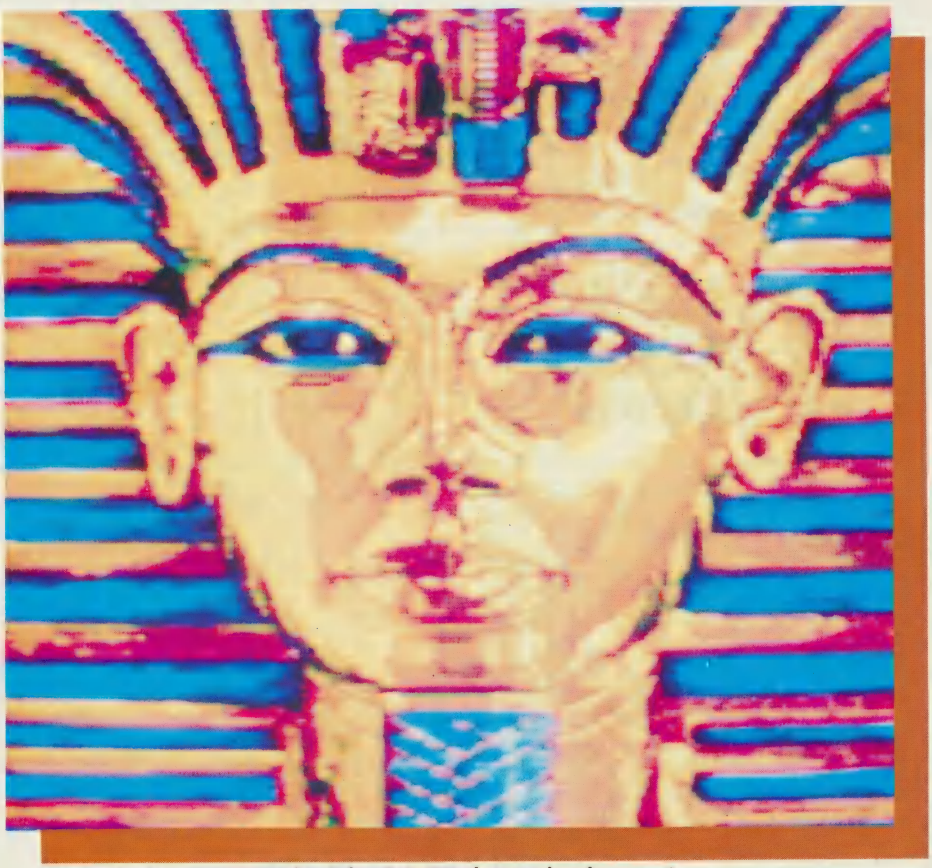
# State of the Art 16-bit graphics

There is no need to suffer for your art with Graphics packages which give a new dimension to painting by numbers. Tony Hetherington has compiled a buyers guide for paint without pain.



● King Tutankhamen resurrected in *Deluxe Paint III's* glorious colour demonstration.

The advent of 16-bit computing produced machines with more memory, faster processors and built-in disc drives and also generated computers with higher screen resolutions and a greater palette of colours. Compare the C64 16 colours to the Amiga palette of 4,096. Naturally, there is a price to pay for the improvement and that is called video RAM. It still remains limited even in these micros, so there is a direct pay-off between the number of pixels you can have on a screen and the number of colours used to colour them. Consequently the machines operate in various modes, as do the paint packages to accommodate them.

Sixteen-bit art is blossoming as more and more packages are becoming available, largely through imports, so to keep this article within magazine boundaries I decided to concentrate on the major players for each machine. This also reflects the current mood in Amiga art which is turning into a head-to-head battle between the EA *Deluxe Paint III* and *Photon Paint* from Microillusions, imported by Activision.

Deluxe Paint, now in its third version, is better than ever and is widely-regarded as the best and easiest to use art package. Its famous demonstration where a superb image of Tutankhamen's burial mask becomes a brush and paints it all over the screen lives on as a dramatic image of the power of these programs. It is packed with all the features including the best magnify option you will find and has become the standard against which other art packages are measured.

Now the latest version, Deluxe Paint III, fights back against its growing competition with the inclusion of more features such as an extra-halfbrite 64-colour mode and animation. Extra halfbrite offers digital artists two versions of each selected colour and one is half as bright as the other. Multiply them by 32 and you have the claimed 64 on-screen colours. This brings back memories of the days when the Spectrum claimed to have 16 colours.

## Animation

AnimPaint is the big difference as DPaint III aims to take the hard work out of animation by allowing you to create multiple animated images simultaneously through a system EA calls animpainting which flips through the screens of your animation automatically while you draw. You can even draw with an animated brush such as a flying bird, selected from an earlier animation which is transferred quickly to the new frames through Animpainting.

One thing even Deluxe Paint III cannot do is in the Amiga 4,096-colour mode which, by coincidence, is exactly what Photon paint does well.

The Hold and Modify mode allows the Amiga to display 4,096 colours on the screen at any time. That is ideal for users of a digitiser as a source of graphic material. With Photon Paint such images can be touched up and tweaked and you can also take advantage of other Photon features, including the ability to wrap a brush into a 3D shape such as a cube, cone, ball and

piten, roll, yaw and distance your creations to produce some stunning effects.

Deluxe Paint has also made inroads into the PC market, as the machine has yet to be taken seriously as art system. Although DPaint II-PC can run on a CGA system it is meant for the 16-colour EGA graphics boards or the 256-colour VGA PS/2 environment, hence the inclusion of the PC in the 16-bit section.

Once again King Tut appears as an example of what can be achieved using effects such as zoom to make slight adjustments to your drawing and smooth allows colours to be blurred into each other, avoiding sharp edges.

PC graphics are used mainly to display company figures through bar charts, pie charts and line graphs but even they can be boosted by adding colour, a third dimension and interesting backdrops.

It is an area yet to be fully explored as I am sure varying the backdrop will have psychological effects on the viewer of the figures. Stark black and white charts are often ignored but if the graph of the latest sales figures is displayed over a satellite picture of the Earth even the most cynical investor would be impressed.

## Business

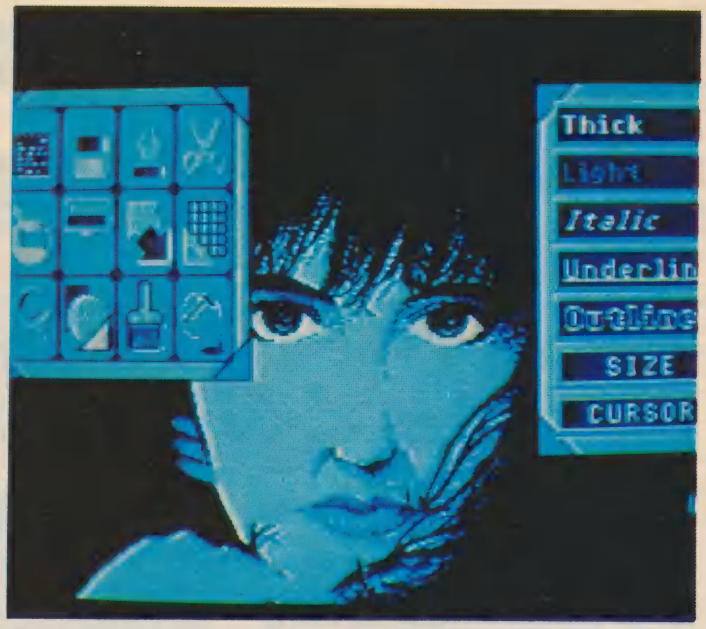
Ashton-Tate *Draw Applause* is such a business graphics package which includes a Picture Window for creating backgrounds, a Word Chart window for adding text and a Chart window for converting data to line, pie, bar, area, mixed or table charts. Creating graphics is only half the story and so Ashton-Tate offers a graphics service in which it will turn your work into printouts, slides or transparencies for overhead projectors.

The Atari ST has been awash with paint programs since its launch and early ST520s were bundled with the Atari *Neochrome* which quickly set basic standards for the others to follow. Now Atari has released *Hyper Paint* and so it is best described as a typical official version. Whether it be a disc drive or paint package the "official version" inevitably works well but is not exactly over-burdened with advanced or innovative features, which is exactly true of Hyper Paint.

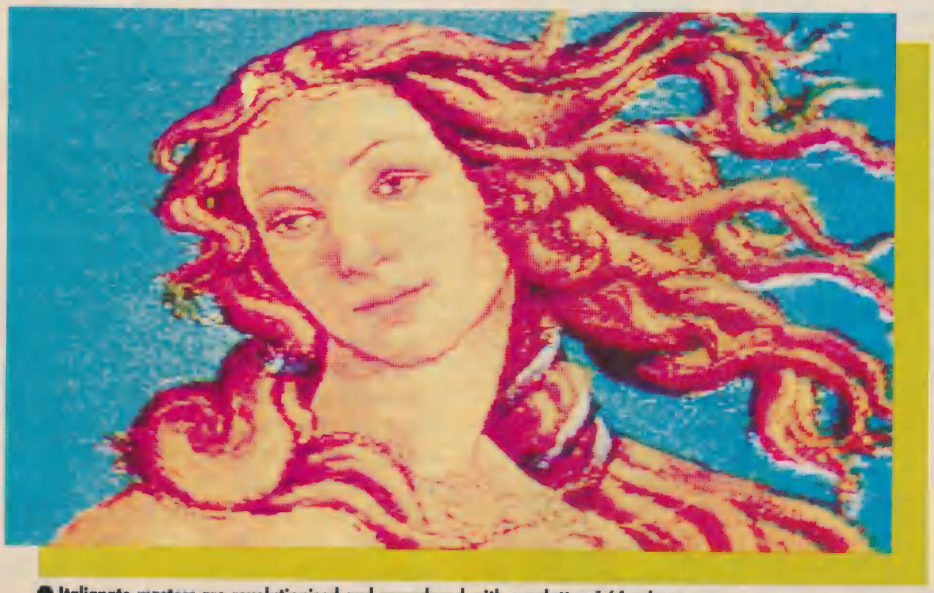
You can draw and create impressive images freehand or using some of the 18 pre-defined shapes, including arcs, ellipses and rectangles, and can zoom in and magnify part of the screen up to 16 times to edit a small part of the screen.

A package which literally has a little more flair is the AMS – new Database – *Flair Paint* designed with DTP in mind. It uses the usual 16 colours selected by adjusting RGB sliders and has a number of useful drawing tools, including definable brushes and fill patterns. Flair Paint departs from the usual screen display which has a series of icons surrounding a graphics window and puts the icons inside windows on a full screen canvas.

It calls these windows tablets and selecting an icon invariably produces another tablet full of icons. They disappear while you are working on the screen but can be called back with a click of a mouse button. Flair Paint is also supplied with a number of desk-top accessories, including a calendar, notepad and clock which appears complete with cuckoo on IMB machines.




● On canvas icons can be readily called to assist the *Flair Paint* artist.



● Italianate masters are revolutionised and reproduced with a palette of 64 colours.

## COLOUR PRINTERS

One of the most satisfying ways of preserving your graphics masterpieces is to print them out on a colour printer. At the upper end of the scale the £680 Integrex Colourjet fires spots of ink from its yellow, red, blue and black reservoirs to produce a smoother image than any dot matrix could match. Because of the ink-jet mechanism it is also quieter but as yet lacks many of the drivers necessary for use with the majority of paint programs.

By comparison the Star LC10C costs £250 and is ideal for general home use. The colour version uses a special ribbon split into red, yellow, blue and black sections which moves so that the required colour is under the head at the proper time.

If you have a mono printer and cannot afford or justify an upgrade, make use of any grey scaling options your paint package has as this prints-out a shaded version of your picture, substituting shades of grey for your on-screen colours.

## DESK-TOP PUBLISHING

More and more paint packages are being used to provide illustrations for use in DTP documents and can range from clip-art sketches to full-blown paintings. When you buy a paint package, ask what format is used to save the files and check whether it is compatible with your DTP package.

Perhaps, the ultimate use of DTP graphics is provided by the Amiga program *Professional Page* which can incorporate IFF files into its pages and then separate them into printer colours – cyan, yellow, magenta – from screen colours – red, green, blue – for use by professional printers.

## CONTACTS

Deluxe Panit II, Electronic Arts £79.95. Tel: 0753 49442.
Photon Paint, Activision £89.95. Tel: 0734 311666.
DPaint II-PC, Electronic Arts £99. Tel: 0753 49442.
Draw Applause, Ashton Tate £495. Tel: 0628 33123.
Flair Paint, Database £??. Tel: 0625 878888.
Hyper Paint, Atari £30. Tel: 0753 33344.

# State of the Art 8-bit graphics

Create some fun sketches on your C64, Spectrum, Amstrad CPC or Amstrad PCW or try new ways with DTP.

Graphics on 8-bit home computers will always be restricted to fun applications as the machines have severe restrictions for screen resolution and selection of colours. The extreme case is the Spectrum with only 320 by 200-pixel screen resolution with the further restriction that colour can be defined only for each 8 by 8 block. By far the most common uses of such packages are for the creation of background screens for games or for showpiece galleries such as Compunet. Now many users are using graphics packages as input for DTP programs.

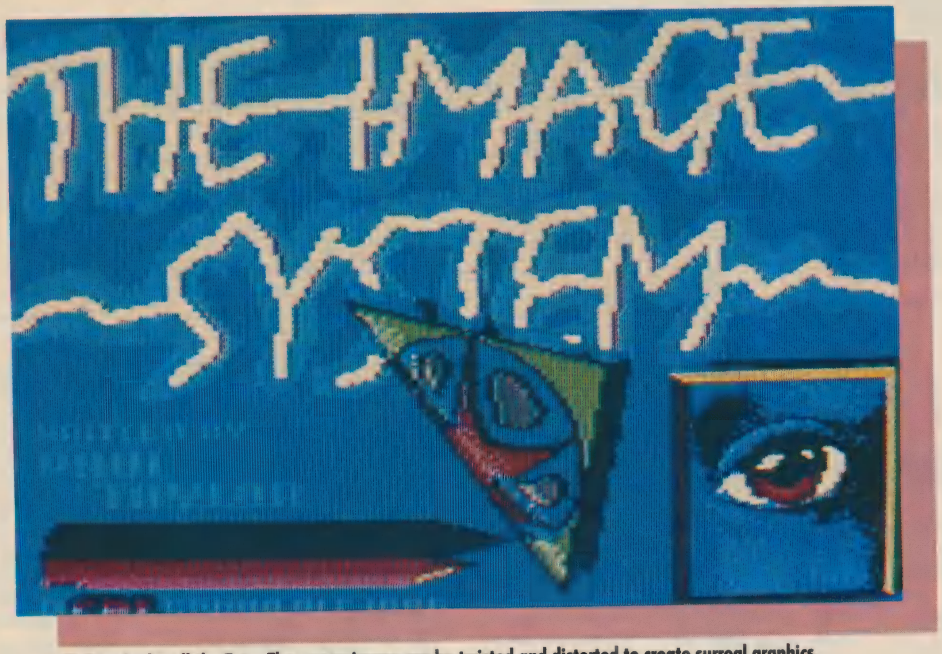
The market leader across 8-bit formats is *Advanced Art Studio* which has a story to match its amazing range of features. It was written by Oxford Computer Press which then signed a marketing deal with Rainbird. OCP, dismayed by the lack of promotion just prior to the sale of Rainbird and the rest of Telecomsoft to Microprose bought back its package and, after clarifying talks with Microprose, has now signed with Datel Electronics, which plans to bundle all versions with a mouse.

It is available for the C64, Spectrum 128 and Amstrad CPC series and offers a 16-bit-style pull-down menus and dialogue box environment, plus a host of unrivalled features such as 16 pens, eight sprays and 16 brush patterns and the option to define your own. You can also define up to 32 fill patterns and are free to use the full selection of colour of your machine. The pull-down menus can appear at the top or bottom of the screen, so you can reach your full canvas, and are stacked in rows of two so you have to be sure you are over the menu you want.

Shapes, colour, undo, fill, magnify and print menus are self-explanatory, although it is worth mentioning that the C64 version offers five sizes of print dump and full grey scaling. Perhaps the most powerful menu is the windows option which allows you to define any part of the screen as a window and then clear, invert, cut and paste, enlarge, reduce, squash, stretch and flip its contents.

● *The Advanced Art Studio* allows you to immortalize your ▼ pet gibbon.

▲ ● *Image System* – 8-bit graphics can produce stylised images too.




● Somebody call the Tate. The screen image can be twisted and distorted to create surreal graphics.

Datel plans are only just becoming clear and will result in some stunning offers. The C64 version will be bundled with a Commodore 1351 mouse, mouse mat and mouse holder for £29.99. That is £5 more than the original Rainbird price for the software on its own. The Spectrum and CPC versions cost £49.99 but they include a Datel mouse, mouse mat, mouse holder and mouse/joystick interface.

*Blazing Paddles* is the other Datel C64 bundle as it bundles the Blazing Paddles graphics package with a lightpen or – separately for half the cost – for use with a joystick, mouse, graphics tablet or trackball. Blazing Paddles offers a comparable range of brushes, shapes, zoom mode and printer dumps but its real claim to fame is that it offers more than 200 hues through an advanced colour mixing process and allows you to save not only whole pictures to disc but also windows and shapes which can be used later to create new images.

*Artist II* is the Spectrum equivalent of Blazing Paddles and is the original Softek paint package rebundled by Datel with a two-button mouse. The package, which will lose prominence now the Art Studio bundle is available, has some predigree as it was written by Bo Janeberg, best-known for his amazing arcade adventures *Fairlight* and *Fairlight II* which featured stunning 3D graphics.

This showed that if you kept the colours under control the Spectrum was capable of some stunning effects. Now, through a system of windows, icons and pull-down menus, you can reproduce these graphics and take advantage of features such as an extensive zoom mode and a font and sprite designer.

The CRL *Image System* is a C64 and Amstrad CPC graphics package which literally has a twist. Through joystick control and the usual array of menus you can draw, fill and colour shapes. Through the extremely unusual image menu not only allows you to save, magnify and print part of the screen but also enables you to twist and distort a screen image. This gives computerised Salvador Dalis a field day, as all manner of objects can be twisted into new interesting forms which will impress bystanders, particularly those of the "what can you do with a computer?" brigade. The Image System also includes a Basic listing and details of how to include "Folded 3D" images in your programs.

## Speed

The Amstrad PCW has occupied an exceptional niche in the market and specialises in word processing and now DTP applications. Consequently, while there are a few art packages for the PCW, including one which is complete with a scanner which fits on the PCW printer, most are collections of fonts and clip-art to be used in the plethora of DTP packages.

One of the best is from the team which created *Stop Press. Get Set* from Tecnation is a collection of fonts, clip-art and utilities for use with Stop Press, although they can be used by others with little or no alteration and usually via one of the included utilities.

Another very useful utility on the discs is a ASCII-to-LocoScript converter which speeds the process required to use non-LocoScript word processor files in Stop Press documents and there is even one which reveals an unrevealed feature of the 512K PCW which can hold up to five Stop Press pages in memory at any time.

The clip-art collection is extensive and ranges from animals and means of housing and transport to bathroom and kitchen fittings. The latter are included as both front and side elevations.

## BRUSH STROKES

A traditional artist is restricted to using a brush or charcoal to create masterpieces but a computer artist has an array of devices to help him. As a basic control device, 8-bitters tend to use a joystick whereas 16-bitters use a mouse but both have other options. With a lightpen you can draw on to the screen and the program will detect where the pen is by when it scans the screen refresh.

Unfortunately, the lightpens are usually too thick for precise placing of pixels but it is a good way to create a framework. Graphics tablets are favoured by professionals and cut-down versions are available for many micros. They are particularly good if you want to trace a printed image. Finally, there is a range of scanners and digitisers for serious users but more about them in a forthcoming buyers' guide.

## SCREENSHOTS

Taking screenshots of your masterpieces is a cheap and easy way of collating a hard copy of your artwork but you will need to follow a few tried and tested rules if your results are to be worth displaying. Use an SLR 35mm camera and set the shutter speed to around 1/8th. I find ASA 100 print film produces reasonable results but before you take a single picture ensure that the room you are in is dark or you will have reflections spoiling your image.

Also slightly – and I mean slightly – increase the brightness and colour on your monitor above their usual levels. Bracket your pictures by taking three or four at different apertures – approximately four and ensure all the image is within the viewfinder and it is focused.

If you can, try to use a tripod to ensure that the camera is steady but make sure that it is in line with the screen and not looking up or down at it. If you want to reduce the curve of most monitors and television sets you could try using a telephoto lens as far away as your room will permit and then zooming in. Prints produce reasonable results even when developed in one-hour shops but, for better colour, opt for transparencies such as an Ektachrome 400 film.

## JARGON BOX

**IF YOU** thought computer jargon was difficult to fathom, try some of these examples.

**PAL** – The European and Australian TV standard.

**NTSC** – The American TV standard which uses fewer lines than PAL and so some imported graphics packages may have blank areas at the bottom of the screen.

**OVERSCAN** – A technique which increases the number of pixels on the screen by using the normally blank border.

**INTERLACE** – Doubles the vertical resolution of the screen by displaying it in two parts. This causes the infamous Amiga screen flicker.

**ANTI-ALIASING** – Hides jagged edges caused by shapes drawn with pixels by using different colour shades to fool the eye.

**RUBBER BANDING** – Used in drawing shapes such as rectangles, circles and ellipses which are stretched like a rubber band until the required shape and size is found.

## CONTACTS

Advanced Art Studio, Datel Electronics. Tel: 0782 744707. C64 bundle £29.99. CPC, Spectrum bundles £49.99.
Image System, CRL £24.95. Tel: 01-533 2918.
Artist II, Datel Electronics £49.95. Tel. 0782 744707.
Blazing Paddles, Datel Electronics £24.99. Tel: 0782 744707.
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# Computer GAMESWEEK

# ANGEL OF DEATH

## HOTLINES

Having seen England's dismal performance in the First Test against the Aussies, I am going back to my ancient copy of CRL *Test Match* to rectify things, as no-one has yet promised a new cricket game.

I have heard though, that a software house is negotiating for the rights to pixelise *Neighbours*. I cannot reveal yet which it is, or I'll be down the Old Bailey.

Another snippet of gossip is that a big American firm is working on a game based on the Spanish Armada. It seems to be strategy with arcade sequences. Who produces games like that then?

I told you about *Storm Warrior* last week and promised to reveal whether it is a good game. It is released on an Elite label and is immediately reminiscent of *Beyond the Ice Palace*. The music on the C64 does not sound new but is good all the same, while the moving and chopping actions of your warrior are all well-animated. On the CPC the graphics are sub-savage but very good anyway and the real treat on the C64 is the shadowy figure of death making his way across a landscape to represent failing health.

While not a full-price game, Storm Warrior is a little gem in the budget market, so CPC and C64 owners should treat themselves.

Also returning to last week, I mentioned Impressions/Cognito, which are labels of Zeppelin games if you did not know. After protracted negotiations a representative agreed to visit our office to show us *Chariots of Wrath* to see whether it was like *Xenon II*. Alas, he cancelled four hours before he was due to arrive.

A press release from Micropose boasts of *F-19 Stealth Fighter* being named Best Simulation by the Software Publishers' Association. Stewart Bell commented, "I am very honoured. This is a moment I will never forget. "So what? What does an award from an American panel mean to the man in the street in the U.K. To think that trees died for the paper on which it was written and with Microprose producing a Greenpeace game as well.

A new publishing house, new concept, new game. But is it? Empire is another label for an existing software house, *Sleeping Gods Lie* is a 3D pixie quest and the programmers, Oxford Digital Enterprises, have been programming it for almost, two years now. Look at the pictures and see what you think. Release is meant to be any day now, with the price £24.95 for ST and Amiga formats.

A final snippet. *Castle Warrior* is the follow-up to *Bio Challenge* which I hated, from Delphine Software, marketed in the U.K. by one of the few original software houses remaining, Palace Software.

*Duncan Evans*

● Spare a gold piece for a cup of tea mate.

● Heady stuff this.

● Just when you thought it was safe.

## This Week


**ASTAROTH, p.23**
Search out the lager of Lamot. Or something like that. Hewson goes into a time warp and takes you back to a time before Ultimate's 3-D arcade adventures, a time when platforms and ladders was a new concept. All at todays prices.

**NAVY MOVES, p.24**
A life on the ocean wave, a life on the ocean wave. Ha har Jim Laddie, there be gold in them there waters. Or to be more precise, an enemy nuclear submarine, and it's your job to race through mine filled waters, fight off octopuses, and storm through the sub blowing Ruskies away.

**PHOBIA, p.26**
Fear. Pure undadulterated fear. Actually here at Gamesweek we fear nothing, except a boring game. Thankfully Mirrorsoft's big wobbly blaster measures up and proves you should never be afraid of scrolling in the dark.

**SKWEEK, p.27**
No not the noise when you step on a mouse, but rather the hero of a Pac-man variant, with terribly cute graphics.

**ADVENTURE BRIDGE, p.28**
Pixie king Tony Bridge muses on Might & Magic then goes running around the mazes of Prophecy. Gauntletesque or action based RPG? Our Tony gives you the dirt.

Gilbert is back at Drill and feeling very pleased with himself.

Unfortunately, the rest of his fellow Drillians are not quite so happy. In fact they are green (and slimy) with envy.

Gilbert is invited back to Earth to do a new TV series, but to avoid more of his bragging the Drillians remove parts of the Millenium Dustbin and spread them about the planet.

You are in control of Gilbert (most unusual) and to get him back to Earth within 24 hours you have to beat the Drillians at their favourite arcade games and in turn, they will give you clues to find the missing parts on your craft.

# Gilbert

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AGAIN AGAIN

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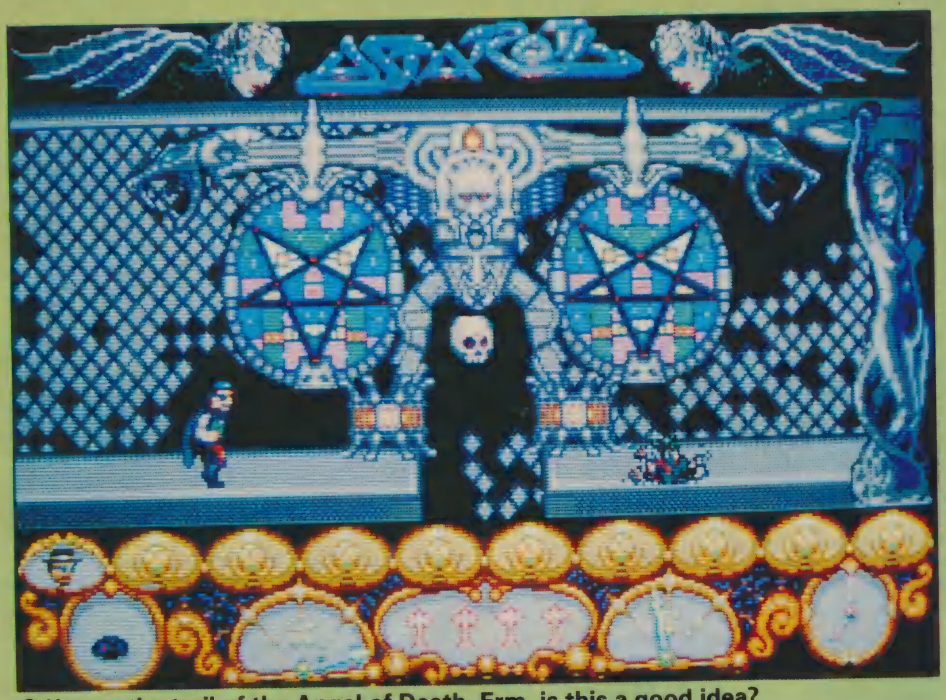


● Hot on the trail of the Angel of Death. Erm, is this a good idea?

**FAX BOX**

Program: Astaroth
Version: ST
Price: £24.95
Supplier: Hewson
Reviewer: Duncan Evans

**RELEASE DATES**

ST: June
Amiga: June

Some games are born great. Others acquire greatness, while some have it thrust upon them. *Astaroth: the Angel of Death* falls into none of these categories.

The premise of this stroll through 8-bit arcade adventure land is that you are a fearless brigand, tramping through a labyrinthine crypt, in search of Astaroth, the Angel of Death, who you are there to kill. Why? Obviously you were bored. And if you weren't to start with, you soon will be.

Taking the part of the dashing (he's adorned with shades/mask and cape) midget, Ozymandais, you are searching for the nine mind powers which will give you a chance of defeating Astaroth herself in a final showdown.

To this end you leap and scurry about the rooms of the labyrinth, dropping through floors, and avoiding the indiginous deathforms. Obviously this is a game with an environmental message, because acid rain regularly drips from the ceiling.

Added to that you have bats, skulls and what I presume are pumpkins all trying to stain your new outfit. Each contact with something unpleasant reduces the size of an icon representing your brain. One more hit and that's one life over and a new one beginning.

There are more horrible guardians to contend with, such as the three headed Hydra, the Marilith Demon and the Sphinx. These three are Astaroth's guardians of the soul and must be defeated before taking on her deathliness.

To do that you'll need to be armed with those mind powers, which endow the abililty to perform telekinetics, pyrokinetics, telepathy, shape shifting, levitation, transmigration, cryokinetics, night vision, and meditation. Otherwise you'll get crisped.

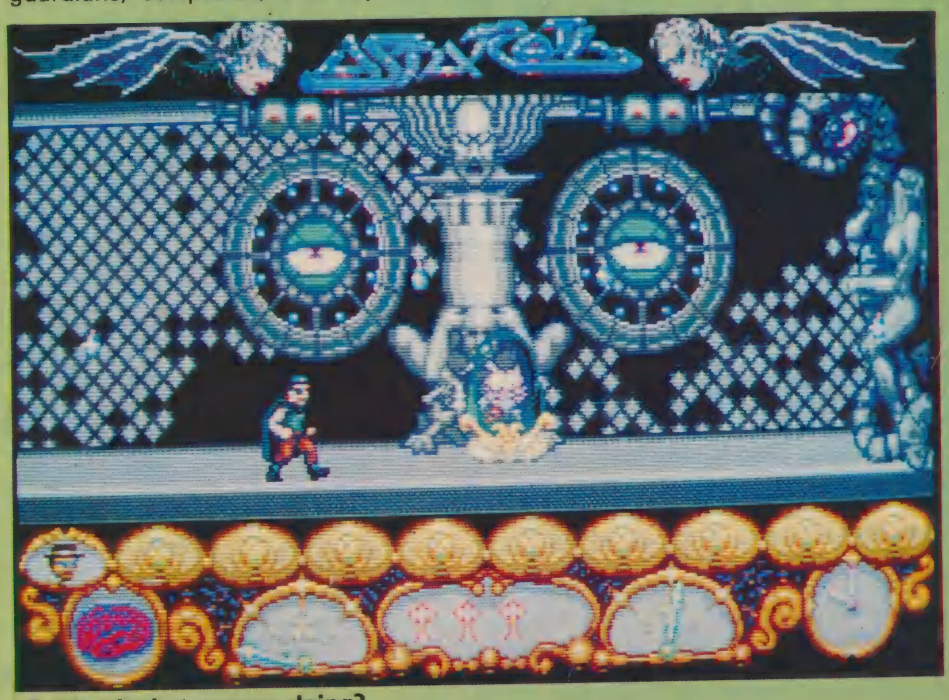
One thing you'll notice as Mr Midget waggles around, besides the plink plonk sonics, is the abundance of plumpy bits on Astaroth's minions, guardians, sculptures, archways and even all over the score screens. Pete Lyon's graphics seem to be getting progressively more sexual as he goes along. What he started with *Airball*, he continued in *Fright Night* and has reached some sort of climax with *Astaroth*.

The final confrontation with the lady of death, strangely enough, does not involve shooting or zapping, but joystick waggling. All you sports games players will be well prepared for the intense waggling required to force the mind power of Astaroth down to zero.

*Astaroth* is really a typical 8-bit game with some decent 16-bit graphics. It's room based with no scrolling, has small player characters, you collect the objects and leap the holes. The game offers little that wasn't around in 1985, save some pretty effects.

Thankfully there's the option to save the game, but even so *Astaroth* is laborious. Only the dedicated mapper and arcade adventurer could find comfort in this tired format and ordinary game.

Gameplay 62%
Grafix 86%
Sonix 61%
Overall
68%



● What is that woman doing?

## FAX BOX

Program: Navy Moves
Version: Amiga
Price: £19.99
Supplier: Electronic Arts
Reviewer: Andrew Ramsey

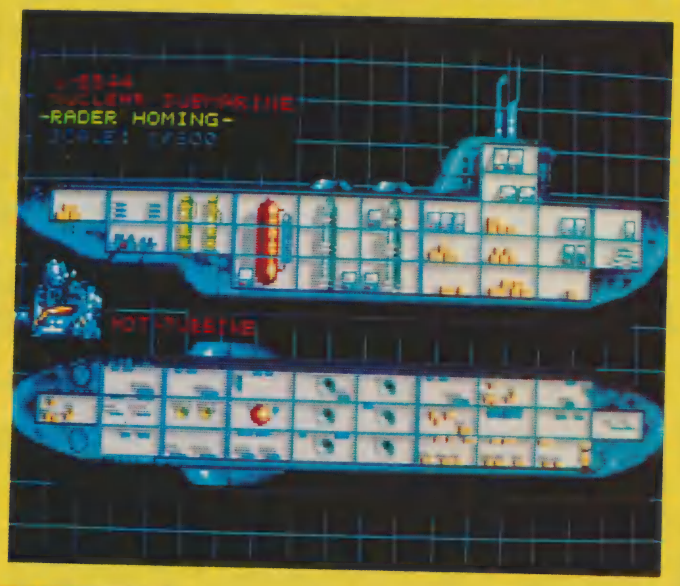
## RELEASE DATES

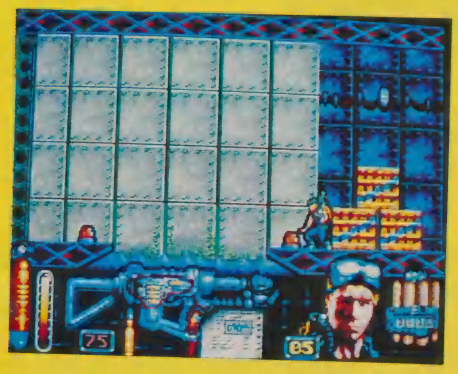
ST: Out now
Amiga: Out now
C64: Soon
Spectrum: Soon
CPC: Soon

When the good guys, because they are on your side, discover that the enemy has an all-powerful nuclear submarine with radar homing missiles, they call for the nearest available arnie look-a-like superhero and all-round tough guy – you.

Approaching the submarine is not easy. Not only do you have to penetrate the enemy defences but you also contend with some rather hostile denizens of the deep. The first game is split into sections.

You start by jumping over the floating mines in your rubber dinghy. Once in the air you can move the boat left and right to land between the closely-packed mines. On the second leg the mines are so close that the slightest error earns you a one-way ticket to Davy Jones locker. The starting section is far too difficult. It requires too much practice and prevents the player getting to or seeing some of the challenges which lay in wait.



Once past the mines you meet the men on the Aquatic Suziki. You must render them harmless before either they ram you or blow off your head with their cannons. Thank heavens for the limitless supply of harpoons and fast ducking reflexes. The water surface may cause a few problems as its continuous motion has a strange effect on the eyes.

From there things go under water as you blast away at the marauding sharks with your harpoon. Halfway through the shark-infested waters you encounter a tiger shark which requires some serious blasting. These scenes are bloody as the red globules can be seen rising from the sharks' wounds – and your shoulder when the shark bites you. Next there is a short tunnel, infested with human cannon fodder, which leads to the lair of the bathyscaphe.

Once again it is blasting time as you go head to head with the giant octopi. They are tough; anything less than a constant stream of missiles impacting on their heads and you are dead. Blast the equally tough serpent to oblivion and you are through to the second section.

Section two takes place in the submarine and requires a password which is given when you complete level one successfully. You run round the submarine blasting the occupants with your combination machine gun and flamethrower. Shooting the various officers enables you to gain the passwords needed to shut down the submarine and render it harmless.

The gameplay is much better in the second half as it contains octopi and the animated machinery adds real atmosphere.

The Amiga version is much cleaner than the ST, not only in terms of better-digitised sound effects and sharper graphics, which are still on the small side, but the controls are much more responsive and the game plays slightly faster.

Gameplay 71%
Grafix 82%
Sonix 78%
Overall
79%

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## FAX BOX

Program: Phobia
Version: C64
Price: £9.99
Supplier: Mirrorsoft
Reviewer: Duncan Evans

## RELEASE DATES

C64: Out now
Amiga: July
ST: July

Deep in the vastness of space, something nauseating lurks. A heaving, writhing, putrescent evil, a horror beyond comprehension, a nightmare from another dimension.

Phobos.

He has captured the galactic emperor. Held near a sun, surrounded by worlds of fear, defended by loathsome beast and hideous creation, rescue impossible. Or is it? Grit your teeth, and get ready to face your worst nightmares on the 15 planets of *Phobia*.

One or two players simultaneously can take to the skies and caverns of the Phobia planets and scroll from right to left, in true shoot-em-up tradition. Each world represents a particular phobia, such as water, spiders, dentists, small places, the poll tax, and even death, which you get in every level anyway since this is a particularly tough game. Probably too tough for anything less than a real hotshot.

There are extra weapons and goodies along the way; none of them is particularly exciting, but they help the cause. Also in your quest to free the emperor from captivity on the sun, you will need a piece of heat shield and you will need to plan your way through the network of planets by grabbing sacrificial pods from the moon. As you progress towards the sun, the forces of Phobos will seek to cut you off, thus introducing a small strategic level to an otherwise enjoyably mindless game.

The music halfway through loading – why was not it on the high score table or main menu, lads? – is atmospheric and doom-laden but then you get to hear it only once per load which is silly.

*Phobia*, besides being just another shooter, offers more colours than ever seen before heaving around, and the backdrop does heave behind the scenery. The scenery is excellently drawn, and perfectly suits the phobia it represents. It is animated as well, so full marks to Tony Crowther for achieving all that and making it scroll smoothly.

The end of level confrontations vary from satisfactory to very impressive but offer little that's overly new. *Phobia* strives very hard to look and feel different from most scrolling blasts but invariably offers just the same kind of experience, so if you are bored by the genre you will not be rushing to boot it up again every evening.

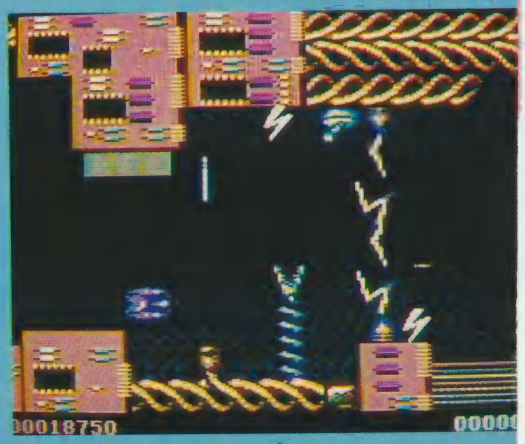
If you are a shoot-and-kill gamer, though, then *Phobia* is an attractive, well designed, graphically impressive sonically succulent, blasting experience.

● No jelly and custard for me tonight.

● Be afraid.

● Be very afraid.

Gameplay 82%
Grafix 90%
Sonix 87%
Overall
86%


● And change your underwear.

● Small and fluffy. How cute! I feel sick.

**FAX BOX**

Program: Squeek
Version: Atari ST
Price: £19.95
Supplier: U.S. Gold
Reviewer: Steve Brazier

**RELEASE DATES**

All formats now

Imagine yourself a long way away, on a distant planet, a long time ago, so far from our green little planet that even the existence of time itself is questioned.

The tranquillity of Skweezland was destroyed by an invasion from the infamous Pitark and his Skarks. As an ultimate humiliation Pitark contaminated the whole planet with a blue sweeticide, forcing all the Skweezettes to claim exit visas and flee to Refuznoid.

After Pitark's death the Skweez decided to reclaim their land, disinfect the 99 continents, and return them to their rightful colour – shocking pink.

Furry, cute little *Skweek* was selected to try and conquer, against all odds, the Pitarks and make Skweezland free and prosperous again.

● Wallowing around in a maze of his own making.

This game, a *Pacman* lookalike, has plenty of hazards and bonuses to keep you interested. Numerous colourful monsters, ghouls and ghosts have to be avoided; only blue or grey squares can be passed over – otherwise there is a drop into oblivion with one of the five lives gone.

Traps open and close unpredictably and special squares are blasted away on contact with Skweek. He needs to travel at top speed to escape. Skweek has some help – a single shooter shot gun. Collecting the correct bonuses lets the gun produce a spray of bullets, it can even turn into a laser which bounces ammunition all round the continent. With this high power equipment the enemy can easily be destroyed.

Other specials include a monster freeze gun, freezing six at once allowing Skweek to jump to the next level. Finding an exit square has the same effect.

This game is more about levels than points but your points score can be increased by finding the delicious ice creams and hamburgers. Occasionally Skweek, who never fails to smile, can even become invincible so that the monsters are zapped if they get too close.

A special treat for our hero is to collect teddy bears along the journey to keep him company. If he manages to find four he is rewarded with five new lives and a new start at the next level.

Avoiding the monsters is not too difficult – running too fast and falling into traps is the biggest hazard. In addition, there are squares which will allow you to travel only in one direction; far worse are the grey squares. Once on a grey square you slip along, as if on ice, unable to stop or change direction. Often you are taken straight into a trap lying in wait at the other end.

This fun game has great graphics, is not ruined by tedious sound and is not easy to play. Let us just say that I did not make it through the 99 continents – with me in charge the Pitarks would continue to rule.

Gameplay 70%
Grafix 81%
Sonix 58%
Overall
72%

# Adventure Bridge

As I said some weeks ago, the American market appears to have an almost insatiable desire for RPGs – I found **Might and Magic** somewhat wanting in originality, although it is not a bad introduction to this form of game. After a little investigation, I found that the program is two years old and is being hyped at present to pave the way for **M&M 2**. I have not yet seen this sequel, but I imagine and hope that two years will have seen some advances in the author's technique.

Meanwhile, Activision has yet another RPG to offer the PC. This is **Prophecy**, written by the American team of Richard L. Seaborne and Alan Murphy.

You don't really need me to go into detail about the story, do you? As usual, it boils down to you having to fulfill the Ancient Prophecy and save the world from the evil Empire.

Initially, the game looks very much like a **Gauntlet**-style arcade bash, with your well-drawn character being moved around the screen with the joystick. As he bumps into chests, cupboards and so on, you can examine what is inside and any discovered objects are added to the inventory.

Actually, it is very similar to **Times of Lore**, as your single character – no party of adventurers here! – wanders the countryside – and like **TOL**, there are buildings along the way which offer sanctuary to your hero, so that he can rest from his labours.

These labours consist largely of combat with the various creatures you will meet along the way. One scene flips to the next as you reach the edge of the screen, and each screen has its own particular puzzle, which must be solved if you are to stay alive very long – but the puzzles appear to consist largely of how to deal with the threatening monsters.

The status of your character can be seen on-screen in the list of vital statistics such as Strength, Charm, Agility and Speed. Some unusual ones are also included, such as Will (reflects your strength of mind and affects the number of Spell Points you get when you go up a Level) and Vision (shows your mental power and also affects the number of Spell Points) among others.

It is a pity that there is no character-creation as is usual in RPGs. This means your character has no real depth beyond the wide range of armour, weapons and spells available.

As for Spells, and as in other games of this type, Spells and Magic form an important part of the gameplay. There are not as many as in some RPGs, just thirty, and most add a number of points to your attack or defence rating. There are, however, other useful ones like the Neutralize Poison and Cure Disease as well as Stupefy (which renders the enemy incapable of attack) and Rock Wall, which crushes your enemy!

Combat is the other important ingredient of **Prophecy**, and is in real time. Unlike most RPGs, you are not given a chance to sit and think how best to deal with the current monster – it is a case of be prepared before danger is met, although until you get the various monsters with experience, a rough guide of their potency is displayed on-screen for your information. In your two hands, you may hold two small weapons or one two-handed weapon, such as the Tower Shield. You may also wear a helmet, a pair of gauntlets and armour – but although it may not be selected and ready for use, any amount of equipment can be carried by your character.

Weapons are numerous; each new monster requires a different approach, and some weapons work better than others in certain situations – some of the larger weapons hinder your agility, too, so thought must be given to how fast you may need to move around the screen. **Prophecy** is not all bashing and spell-chucking, however – you may also find it profitable to talk to some of the monsters, and vital information can be gleaned in this way.

Having said that, I do not think that **Prophecy** is going to turn out to be a great brain-numbing puzzle-solving adventure. Although I had fun trying to work out the best way to negotiate the opening few screens, my character perished quite regularly, so I have not seen a great deal yet.

But is is only a matter of practice, as always with this type of game – the spells combined with the wide range of weapons and armour ensure that interest will be kept high for some while. It is simple and easy to get into – just load and fight!

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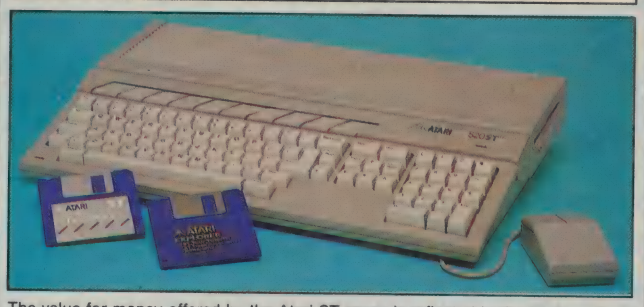

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# The speed of sound

## With a click of the mouse, update your Midi equipment, Tony Sacks explains.

As your Midi set-up grows you start to accumulate a variety of Midi files containing synthesiser voice patches, drum patterns, sequences, programmable effects set-ups and so on. Although librarian programs can help you organise and store those files, most of them are dedicated to a single synthesiser or other item of Midi hardware.

Pixel Publishing, a Canadian software producer, has set out to tackle the problem with its Super Librarian program for the Atari ST. The program stores Midi data from and sends it to more than 60 synthesisers, sequencers, drum machines and effects devices. Most of the popular instruments are supported. With a single click of the mouse button you can send sets of data to every item in your set-up. What is more, because Super Librarian can operate as a desk accessory, it can be done while you are running your GEM-based sequencer.

Visually, the program is not particularly exciting. Most of the main screen is devoted to a panel listing the files stored in one of eight folders which you select according to your particular set-up. The folders may contain banks of synthesiser patches, individual voices, micro-tuning data, files for hardware sequencers and so on.

Once you have received the data the program allows you to organise the files by copying, swapping and re-naming them. You can even give names to synthesiser patches which were originally anonymous.

To hear how a patch sounds the program lets you store 10 mini-sequences, each about five seconds long, which are triggered by the function keys. Alternatively you can play a Midi instrument connected to the ST Midi In port and the program will send the data to the appropriate synthesiser.

Midi data can be despatched to one instrument or device at a time or to a series of devices one after the other. You can store a sequence of commands as a "performance file" so that, in future, by choosing that file, the program will send the same data in the same order as you did originally.

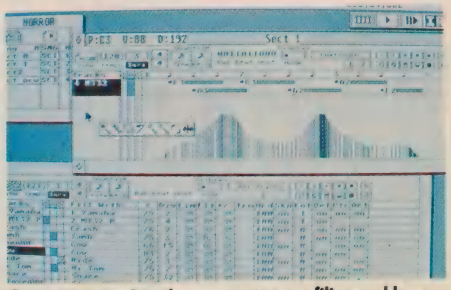
You may have realised that there could be a problem because, without repatching or using a Midi merge device, the ST can accept Midi signals only from one device at a time. Super Librarian has an answer – before sending data to each new device it can send a command to a programmable Midi patch bay to reconfigure itself so that the ST can communicate with the next device.

Another potential problem is that your set-up might include a device which the program does not support. Pixel Publishing promises regular updates to provide "profiles" for new instruments.

The more Midi instruments you have and the more often you change patches the more Super Librarian is likely to appeal to you.

A demonstration disc of Super Librarian should be available from your local supplier. For details contact the U.K. distributor, MCM. In the next few months, Pixel Publishing is promising to release versions of the program for the Amiga, PC and Macintosh.

*MCM Distribution, 9 Hatton Street, London NW8. Tel: 01-724 4104* □



**Super Librarian has the answer to your filing problems.**



# The mega Amiga

## Ken Garroch reviews essential tips for Amiga enthusiasts.

The Amiga computer is one of the most complex home computers available at the moment, especially with regard to the operating system. There are many facilities available and although they are reasonably well documented, there are usually possibilities that you have never considered or thought impossible.

*More Tricks and Tips for the Amiga* contains a selection of useful ideas, as well as a few completely useless ones. For instance, the author starts by introducing a few ideas to help you use the CLI more efficiently. Some of these, such as pausing the output by using space and then backspace to restart it, are reasonably well known. Others such as making the CLI window borderless may not be.

The first section of the book is about accessing the operating system from AmigaBasic via bmap files. The two main subjects covered are Intuition – the system routines which provide the WIMP (Windows Icons Mouse Processes) environment for the workbench – and AmigaDOS – system routines for disc access. There are two complete program listings given which are also available on the Disc of the Book. One is for looking at files and one for setting up an intuition window. They are not particularly long and could easily be typed-in unless you are feeling lazy enough to pay out the £14 or so for the disc.

**Hints and techniques for all Amiga users.**

Many people are of the opinion that using machine code on the Amiga is rather complex. Some difficulties are removed in the chapter which gives details on running machine code programs from Basic – you still need to assemble them with an assembler to get the code numbers. There is even a brief section on altering the hardware with advice on how to disable memory expansions, disable disc drives, install a 68010, and quieten the fan in the A2000.

Though the new *Workbench (1.3)* and *Kickstart* are mentioned throughout the book, a chapter is devoted to the new commands available and the new options to old commands. With additional information on the printer device and preferences plus various tools, there is plenty of reference material for anyone upgrading from 1.2 to 1.3.

Much of the information in the book may be well known to any complete Amiga nut, but if you are new to the machine or are just getting to grips with it, chatty style and varied contents make it a good buy. □

**CONTACTS**

Title: More Tricks & Tips for the Amiga
Authors: Bleek, Maelger, Weltner
Publisher: Abacus
Available from: Computer Bookshops Ltd. Tel: 021 706-1188.
ISBN: 1-55755-051-4
Price: £18.45 for the book and £14 (approx) for the disc

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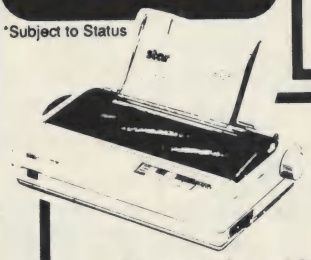

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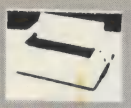

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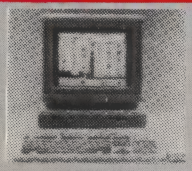

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## ST screen access

*John Ferris of Mold, Clwyd writes:*

**Q** I use HiSoft Basic on my ST and I would like you to tell me how I can peek and poke the screen. I want to transfer blocks of memory from one place to another.

**A** **The first thing to find is the address of the screen in memory. This is not guaranteed to be in the same place in every version of the ST, so the following system call should be used to locate it exactly:**

**library "XBIOS"**
**scrn&=FNlogbase&**

**This makes use of the library functions supplied by HiSoft and allows direct access to the XBIOS routines. The first command makes sure that the program realises that the XBIOS library is to be used. The second uses the library function FNlogbase& to return the screen address. You could use the function every time you needed the address but it is generally quicker to place the address value in a variable such as scrn& for faster access.**

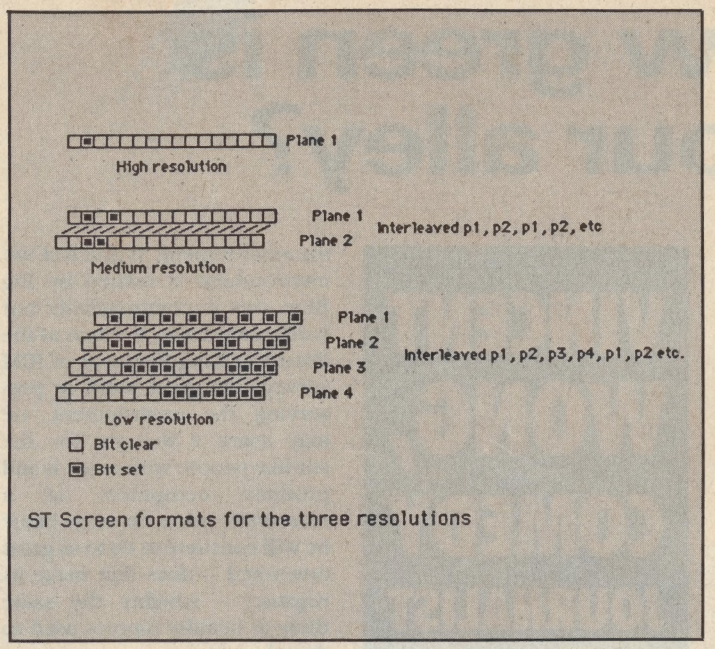
**Placing data directly on to the screen is done with the POKE statements. There are two basic forms of this command. The first is similar to that of Atari Basic in that it uses DEF SEG. This is needlessly complicated and it is much faster, and more logical, to use the second form which has the three commands POKEB, POKEW and POKEL – store bytes, words and long words. The only disadvantages are that they cannot be used to put values into supervisor protected memory and the word and long word versions cannot put data at an odd address – 2 bombs (bus error) and 3 bombs (address error) respectively. They can, however, be used with the screen memory. Reading the screen is performed with the converse PEEKB, PEEKW and PEEKL functions; they have the same disadvantages.**

**To access the screen intelligently you will need to know how it is set out in memory. The three modes are shown in the diagrams. The simplest is high resolution which is mapped directly from the memory. So POKEing the first byte at scrn& with 255 sets the first eight pixels at the top left-hand corner of the screen to black. POKEing the next byte – scrn&+1 – sets the next eight and so on for 80 bytes – 640 pixels. The next line down the screen starts at scrn&+80 and there are 400 lines. Within each set of eight, the most significant bit of the byte (bit 7) is the left-most pixel – try POKE scrn&,128**

**For medium resolution there are only 200 lines down the screen and instead of 80 bytes across a screen line there are 160; the screen memory area is always 32,000 bytes long, whatever mode. To get four colours the 160 bytes are split into pairs of words. The first two words are used to define the colours of the first 16 pixels – see diagram.**

**Low resolution has only 320 pixels across but uses 16 colours. To do this words are grouped into fours, each set of four defining the 16 colours for 16 pixels; again, see the diagram.**

**With that information you will be able to perform direct screen accesses and transfer data quickly from data arrays to and from the screen.**



ST Screen formats for the three resolutions

## BBC assembly

*W Ainsley of Ormskirk, Lancs writes:*

**Q** How do I assemble 6502 machine code on a BBC micro? What about a book on the subject? I have some experience of 6502 from using a Commodore 64 but it did not have a built-in assembler which the BBC does.

**A** **First, set aside some space for the program with DIM, e.g.:**
**DIM C 100**
**sets aside 100 bytes in memory with the address in C; try PRINT C.**

**You need a FOR NEXT loop for the assembling options – OPT T. When assembling machine code the first pass through it should ignore errors and set up the label table. The OPT directive – the difference between a command and a directive is that the latter instructs the assembler to do something, the former executes something – takes up to three bits depending on the version of Basic you are using. Bit 0, if set, enables assembly listing. Bit 1, if set, enables the error reporting. If you have level 2 Basic bit 3 assembles at 0%.**

**Normally code is assembled at P% and this must be set up at the beginning of each pass – see the demonstration listing. Here line 10 sets aside the space in memory for the assembled code to be run. Line 20 starts the two-pass assembly loop with PASS starting at 0 (no list, no errors) and then 3 (list and errors). Line 30 sets the assemble address for the code in P%. Like A%, X%, Y% and @%, this is a system variable integer.**

**Line 40 starts the assembly using the [] brackets to enclose the code. OPT sets the assembly options for errors and listing. Following this is the code. These are standard 6502 mnemonics and can be mixed on a line using as with Basic, e.g., LDA #10:STA&70 and so on.**

**All machine code routines usually end with RTS to return to Basic and the ending bracket ] should go on the next line. The NEXT terminates the loop and the code can be executed with CALL C.**

**The best book on the subject is the *Advanced User Guide For The BBC Micro* by Bray, Dickens and Holmes, published by the Cambridge Microcomputer Centre. You should be able to obtain it from any computer book dealer.**

```
10 DIM C 100
20 FOR PASS=0 TO 3 STEP 3
30 P%=C
40 [ OPT PASS
50 LDA #65
60 JSR&FFEE
70 / any other code
100 RTS
110 ]
120 NEXT
```

**Example BBC Micro assembly.**

## Colour printer

*J Heeney of Ladywood, Birmingham writes:*

**Q** I am in the process of starting a new business venture and need of a printer to print leaflets, sales letters, invoices, order forms. It must be capable of printing in colour, multi-sized characters, line drawings, on to A5 and A4 sized paper.

Since I already own an Amstrad CPC464 and do not want to add to expensive setting-up costs and limited resources, I intend to use it for my printing. The problem is that I know nothing of computers or printers and the handbook mentions only the DMP–1 which I have already found to be difficult to locate and do not know if it is suitable.

Inkjets are out of the question due to cost and this leaves only daisy-wheel or dot matrix.

Which would fulfil my needs?

**A** **As far as I know, there is no such thing as a cheap colour printer – the cheapest I can find is the Star LC10 colour at £252. There are only a few of the dot-matrix type available and unless you want to pay money, the quality is not very good. Another problem, you may not have considered is that even if you manage to obtain a suitable printer, you will need software to drive it. I suspect that there is none for the CPC464 – I may be wrong – does anybody know?. Yet another problem is with the CPC464; it cannot print dot matrix graphics properly because of its limited parallel interface.**

**All in all, I think you should reconsider your decision to print your stationary in colour. You should be able to manage everything else in black and white but you will almost certainly need to upgrade to a better machine such as the ST or Amiga or PC compatible and obtain a desk top publishing package to allow you to print graphics, different sized text, alternative type faces and such.**

# How green is your alley?

**VINCENT WONG, COMEDY JOURNALIST**

Vincent Wong goes green – exclusive, as if you care. Well I do care and I refuse to play the usual columnist's game of starting an article with "Let's be sensible now" and proceeding to write a few columns about the benefits of black pudding or dwarf throwing. It is reactionary rubbish disguised as plain speaking and I blame Julie Burchill and graffiti artists everywhere.

Let us be sensible now. As I type this week the results of the Eurosnooze elections are out and boy we sure whupped 'em good. I cannot help feeling a trifle guilty, though, when I look around my little den and see all the plastic, hardware and paper magazines piled up. So wasteful! So damaging! So what am I going to do? I will buy some of that trendy new recycled printer paper and I will stop buying all those achingly dull computer magazines – the stuff for which recycled paper was invented.

## Allergy

I know I can count on your support as I lobby the commanding heights of industry in search of ecologically sound executives. Watch this space, as I will pedal off on my *Muddy Fox* to conduct some investigative reporting. In a few weeks, courtesy of Wong, you will know the colour of the politics of everyone in the industry. My guess is that it will be half blue, a bit red with a dash of green – imagine the colour of mould.

Remember, the very hippies who are catatonic about and totally allergic to the breakdown of our ecological system are the men and women who built the first personal computers in the garages of California. No wonder they feel guilty. While they are in rude health – no sweaty feet (sandals) no heart attacks (vegetarian) and no fitness problems (all dead skinny) – they have been responsible for heart-rendingly bad cases of acne among young computer boffins worldwide. Switch off that ST, Eugene, and get some sun.

## Organic

Sources inform me that IBM has a commitment to protecting the environment. As much of the environment is owned by Big Blue, this is commendable but hardly surprising. Perhaps as the President/King/Emperor of IBM surveys his great work in preserving the environment, he may spare a thought for the ant-like people who enjoy it and produce computers at a reasonable price. Or more likely he will continue to do to us great unwashed – does that make us organic? – roughly the same thing as healthy hippies used to do at love-ins.

## Emotional

One more thing: a competitor is printing on non-bleached paper. This is supposed to show a commitment to green politics; my guess is that it shows a commitment to saving money especially as it took a week to come up with a reason. In my experience the greenest that most journalists get is after one-too-many at some press launch, when callow young writers demonstrate an inability to hold their drink. If you wish to know about these "press conferences" do let me know. I am the only one who is sober going in, let alone coming out, and I *ache* to blow the gaff. If the report never appears, then you know I have been nobbled and that the establishment has something to hide. The truth will out, comrades.

## NEXT WEEK

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John Cook saw some pretty wierd I/O devices at the CES: the Power Glove and U-Force. Will they replace joysticks? Find out . . .

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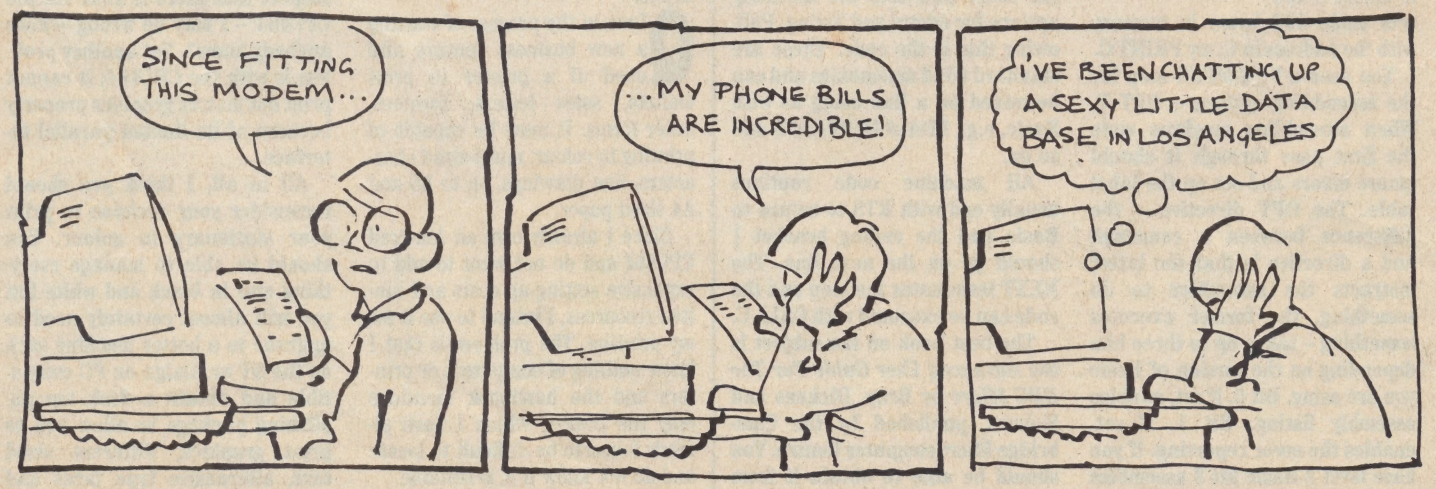
### Hard drive review

We test run a freshly imported Amiga hard drive with a massive 40MByte capacity . . .

### And . . .

Nosebiting news, your letters and problems, Kenn Garroch's technical solutions, more fun comment . . . plus LIFE AND DEATH!

## INTERFACE BY BRIAN COOKMAN



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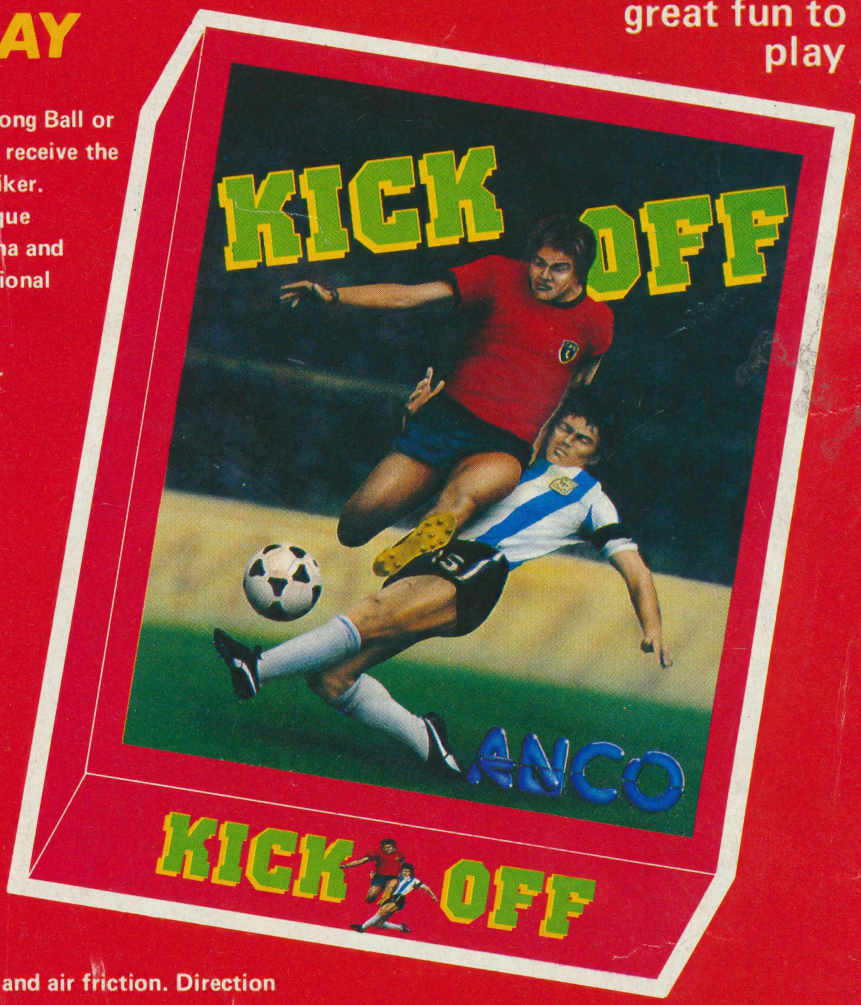


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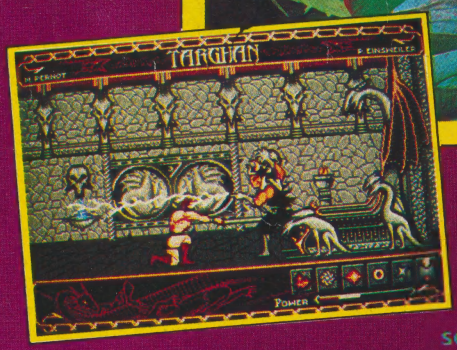

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